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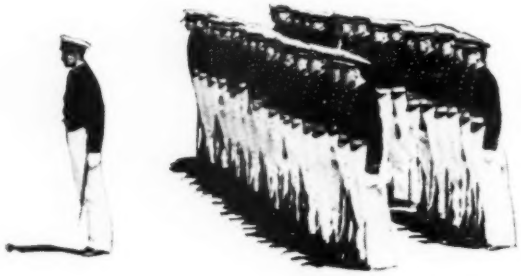
SCIENTIFIC SECTION

EDITORIALS



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ARIZONA MEDICINE

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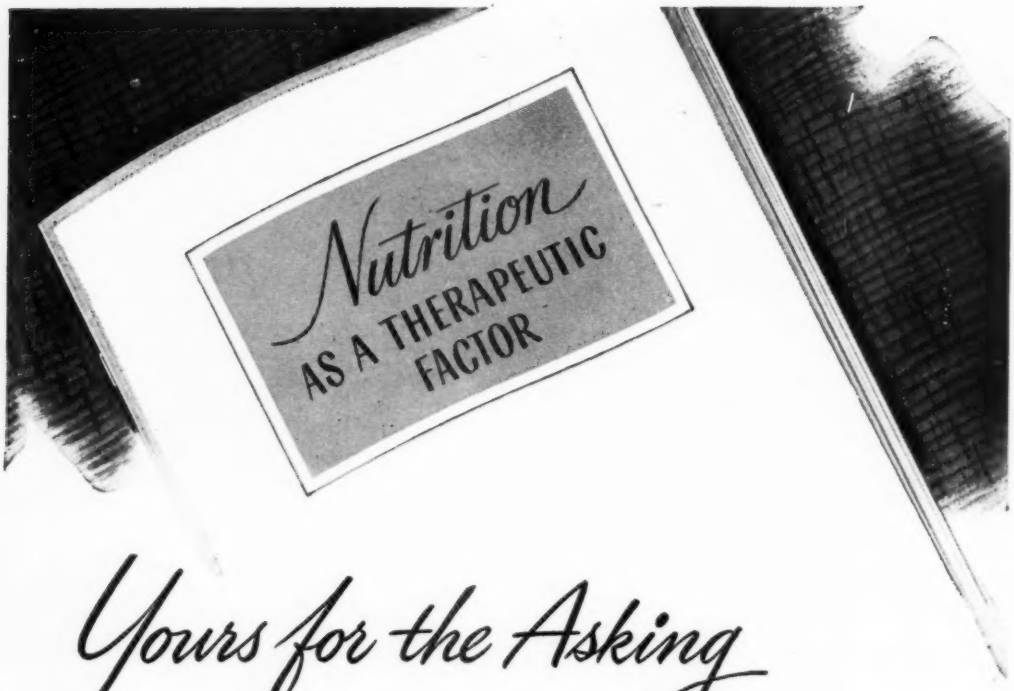

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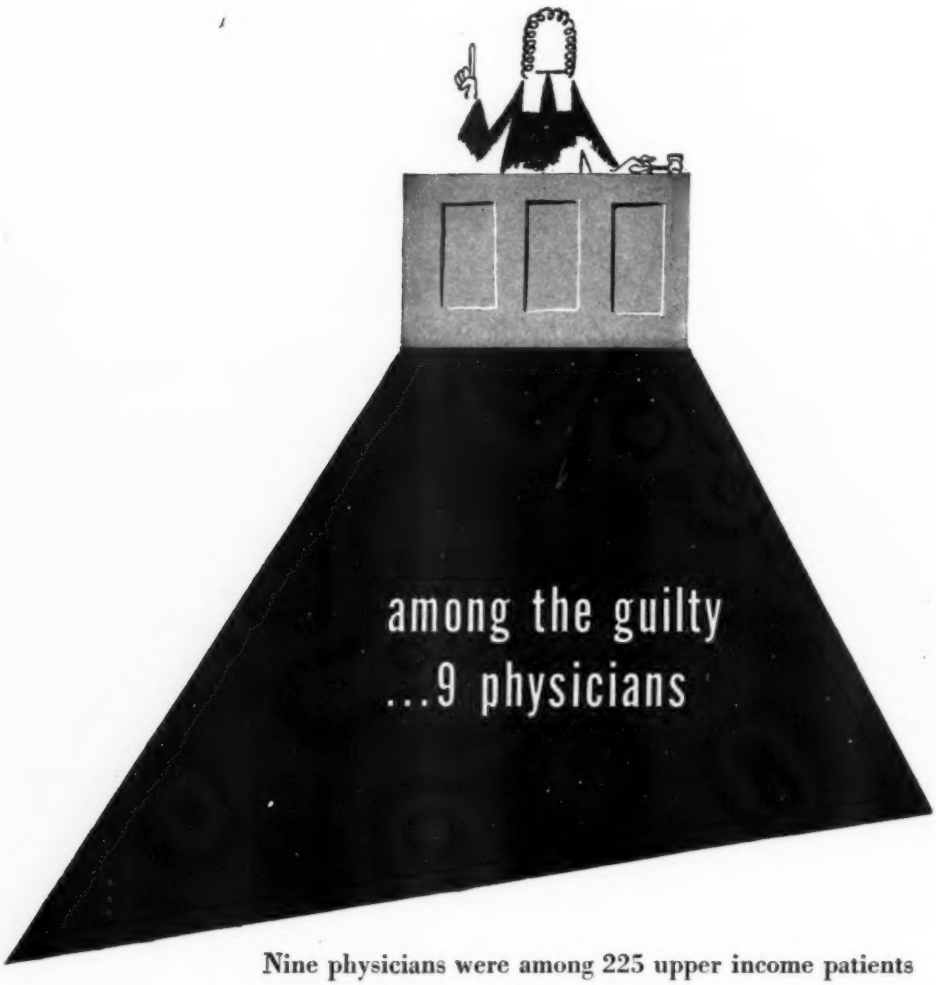

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THE ACUTE ABDOMEN

PHILIP THOREK, M. D., F. A. C. S.
Chicago, Illinois

NO APOLOGY is necessary to discuss a subject as trite as the acute abdomen. The more we are confronted with the numerous pitfalls encountered, the more are we convinced that the diagnostic difficulties remain numerous and embarrassing. In order to clarify and simplify the conditions most frequently mistaken, I have examined the charts from all the surgical services at the American and Cook County Hospitals for a period of the last five years. To my surprise I did not find fifty or seventy-five conditions which confuse us, but rather six outstanding ones that we mistake most frequently. These six conditions are, acute appendicitis, acute cholecystitis, perforated peptic ulcer, renal colic, acute pancreatitis and coronary occlusion. There is a seventh which deserves special consideration, that is salpingitis. Acute or chronic salpingeal pathology is frequently associated with a peri-hepatitis which produces pseudo-gall bladder pains. Because of this, gall bladder explorations and surgery have been done in cases of salpingitis resulting in danger to the patient and embarrassment to the surgeon.

To make a diagnosis one must have a definite plan in mind. Our plan consists of four headings, namely, history, present symptom complex, physical examination and laboratory data. This simple plan has served us well and we utilize it daily.

ACUTE APPENDICITIS:- The statement "only an appendix" is indeed a dangerous one and the more we see of the condition the more we respect it. This condition is most frequently found in individuals under the age of forty and is somewhat more common in males. It will be recalled that gall bladder conditions appear most frequently after the age of forty. The story that the patient relates is a very stereotyped and definite one. To put it in his language: "Something I ate gave me a belly ache." This is his way of describing acute epigastric distress. When he gets his "belly ache" he usually seeks the advice of a druggist who accommodates him with a cathartic, or some well-meaning friend who suggests an enema. Within the first twenty-four hours his "belly ache" becomes a soreness low on the right side. His acute epigastric distress has become localized to the right lower quadrant. The "two question test" is both useful and time saving. Question number one, "Where was your pain when it started?"; to this interrogation the patient points to his entire abdomen. Question number two, "Where does it hurt you now?"; he now points to the right lower quadrant, usually McBurney's point. This simple method of having the patient demonstrate diffuse pain which localizes will diagnose the vast majority of cases of acute appendicitis.

Nausea and vomiting have been impressed upon us as being associated with appendicitis. This is the exception and not the rule. Anorexia, or loss of appetite is more constant and more important than either nausea or vomiting. Anorexia, nausea and vomiting are three degrees of one symptom; anorexia is the mildest and is due to microscopic distention of the appendix; nausea, the middle degree, is due to moderate distention; and vomiting, the maximum degree, is found in greatly distended appendices. The most common symptom in acute appendicitis is anorexia and if the patient states that his appetite is not gone we doubt the diagnosis of acute appendicitis. Two complaints which are extremely rare in acute appendicitis are diarrhea and chills. These are probably found in less than one per cent of the cases. Constipation is the rule and the patient usually states that his "A.M.-B.M." was lacking the morning of the attack.

Fever is not an early finding in acute appendicitis, in fact, if present it is suggestive of peritoneal soiling. Cases of acute appendicitis which have a fever of 102° or 103° are no longer cases of appendicitis, they are cases of far advanced peritonitis. The mortality would be very low if appendices could be operated upon when the temperature is below 99°.

Acute appendicitis *does not* give right rectus rigidity. Although the reverse is taught in most schools and text books, the point should be clarified. It is impossible for an individual to contract his right rectus muscle without contracting his left, therefore, when pressure is

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made upon an inflamed area, both rectus muscles contract. This is not a hair splitting point but rather an important differentiation. When only one rectus is rigid we conclude that an underlying mass such as a tumor or abscess has produced this phenomenon. Contraction of both recti to pressure is referred to as "muscular defense" rather than right or left rectus rigidity. The importance of this is stressed when we realize that diagnosis, treatment and prognosis may depend upon the presence of right rectus rigidity or simple muscular defense.

The iliopsoas and obturator signs do not diagnose acute appendicitis; they locate an acute appendix. A misconception has arisen because these signs are usually discussed under the heading of acute appendicitis; they may, however, be produced in other diseases. The right iliopsoas sign is elicited by placing a patient on his left side and hyperextending the right leg. If positive, pain is produced over the iliopsoas fascia which will be manifested in the region of the right lower quadrant. In the presence of a history of acute appendicitis this would signify that the appendix is overlying the iliopsoas fascia and is retrocecal. The obturator sign will locate a pelvic appendix. It is conducted in the following way: when the patient on his back the thigh is flexed upon the abdomen and the leg upon the thigh; the leg is then abducted. This causes internal rotation of the thigh and stretches the obturator internus muscle. If this produces pain it is diagnostic of a fasciitis involving the obturator fascia which can be caused by an inflamed tube, appendix or ovarian cyst. If the patient elicits a history of acute appendicitis with a positive obturator sign, we conclude that the appendix is low lying and is in the pelvis. Rovsing's sign is also helpful; it is elicited by pressing over the left lower quadrant. If an inflammation of the appendix and the cecum is present, the colonic gas which has been pushed to the right will produce pain over the cecal region. It is quite diagnostic and of acute appendicitis and is found in sixty to seventy per cent of such cases.

Routine rectal or bidigital examinations are done; at times an acute appendix or appendiceal mass may be felt. Late and neglected appendices may produce a pelvic abcess which points rectally or vaginally and this examination reveals the proper site for incision and drainage.

The laboratory data usually consists of a white blood count and a urinalysis. More important than the white blood count or urinalysis is a differential blood count. This is easy to do and is more accurate than the total count. If the "poly" count is high, we assume that an acute infectious process is present; a high "poly" count in the presence of a low white count means a poor prognosis. The urinalysis may be misleading; a few red cells do not clinch the diagnosis as one of renal pathology. A negative urine has been found with a renal stone completely blocking the ureter so that no blood or pus could pass into the bladder.

ACUTE CHOLECYSTITIS:- The dictum that certain types of people get certain types of diseases seems to be correct. The patient is usually a female in the latter third or fourth decade and somewhat obese. These is always the exception of the rule as was brought out by Dr. Clarence G. Salsbury here at the Mission. He has shown that the male Indian who surely does not fall into the fair, fat and forty category, has a rather high incidence of gall bladder disease and stones. This might be due to their high "fat-mutton" diet and low water intake. As a rule the age of forty is related to a previous history of pregnancy and this is theoretically explained in the following way: the average female has her children in the second decade of life. While pregnant she develops a physiologic hypercholesterolemia; some of this cholesterol deposits on the mucous membrane of the gall bladder in the form of polypi. These break off and form the nuclei for stones. It takes from ten to twenty years for gall stones to attain any appreciable size, so that by the time she reaches her fourth decade the stone is large enough to obstruct or irritate. Nulliparous women may have gall stones or gall bladder disease, but this too is the exception and not the rule.

It is important to determine the history of a previous attack of pain. In the middle aged female, the usual disease that will produce an attack of pain so severe that the physician must administer a sedative is an acute gall bladder until proven otherwise. It is unnecessary to administer morphine to a case of acute appendicitis; renal colic will be differentiated presently and coronary occlusion is rare in the female. One of the most unusual lesions noted in the female is a perforated peptic ulcer. The gall

bladder patient also presents a previous history of "selective dyspepsia." By this we mean, that there are certain specific foods that the patient cannot digest. There are four primary offenders to these foods, they are, fried and fatty foods, cucumbers, raw apples and cabbage. The patient does not use the term "dyspepsia" but describes this as the two "B's", namely bloating and belching. In other words, a specific food has produced a specific symptom complex. To summarize the gall bladder patient, one may use an alliteration and state that she is the patient with the seven "F's", she is the Fair, Fat, Fertile, Flatulent, Flabby, Female of Forty.

The present complaint is one of pain. It is important to determine what kind of pain is present; a constant pain is due to edema, but colicky pain is caused by obstruction. This is one of the points which decides whether the case should be treated conservatively os surgically. It is unwise to treat an obstructed lesion conservatively since these are the cases which result in early gangrene and perforation. Morphine should not be used in gall bladder disease because it is a smooth muscle contractor and since the gall bladder is a smooth muscle organ, we should not administer a medicament which would stimulate its activity. By increasing muscle tonus, morphine may actually aggrevate or provoke gall bladder pain and colic. One should not state, however, that the drug must never be used in gall bladder disease, since it still has its place, namely, to prevent shock. These patients are first treated with nitrite therapy. One breaks an amyl bead and lets the patient inhale the vapors; 1/100th grain of nitroglycerin is placed under the tongue and 3 grains of sodium amytal or any other barbiturate is given by mouth. If this gives no relief, we administer a hypodermic which consists of 1/20th of a grain of dilaudid and 1/100th of a grain of nitroglycerin; the nitroglycerin counteracts the contractile power of dilaudid. Should these measures fail, antispasmodic therapy with such drugs as papaverine, demerol, etc., is tried. Morphine is used only after all other measures have been utilized.

Gall bladder pain is usually located under the right costal margin, but may be referred along the path of the splanchnic nerves which supply the stomach. The stomach responds to this stimulus in one of three types of gastric spasms: (1) pylorospasm; (2) midgastric spasm; (3) cardiospasm. If a pylospasm is produced, the gall bladder might be confused with peptic ulcer; if midgastric spasm results, a stomach carcinoma may be erroneously diagnosed and if associated with cardiospasm, the pain appears on the left (pseudo-coronary pain) and coronary disease may be wrongly considered.

Referred pain should not be confused with radiation of pain. By radiation we mean, that gall bladder pain located under the right costal margin, is referred along the path of the seventh intercostal nerve to the inferior angle of the right scapula, or interscapular. Gall bladder pain, therefore, cannot radiate to the right shoulder. Shoulder pain is an entirely different mechanism which involves the phrenic nerve and is indicative of peritonitis. When a gall bladder patient has true shoulder pain a diagnosis of gangrenous or ruptured gall bladder with biliary peritonitis should be made.

Temperature, pulse and respirations are included under the heading of physical examination. The patient with an acute gall bladder has an early high fever, hence, a temperature of 102° is not unusual in the first twelve to twenty-four hours of acute cholecystitis. The early fever is explained by the absence of a submucosa. Since this tough resisting layer is lacking there is greater chance for early contamination and absorbtion in the peritoneal cavity. The patient has a pulse which is increased according to the temperature, therefore, for every degree rise in fever there will be approximately ten beats increase in pulse rate. This is due to the fact that the inflamed gall bladder rubs against the sensitive parietal peritoneum; because of this, acute gall bladder disease may be confused with pneumonia or pleurisy.

Although pain, a symptom may be referred anywhere along its nervous path, tenderness a physical finding remains at the site of pathology. This is an excellent diagnostic rule having few if any exceptions. The tenderness of gall bladder disease will be located in the region of the right costal margin. If it is most marked on a level with the umbilicus, it may be difficult to determine whether the condition is an inflamed low lying gall bladder or an acute retrocecal appendix. There are two ways which aid in the differentiation of these two conditions. First, we recall that the normal abdomen reveals a tympanitic note to percussion in all four quadrants. If the tenderness opposite the umbilicus

is due to an inflamed gall bladder we assume that the organ is unusually large or that a ptotic liver is present with an inflamed gall bladder at its free border. This would cause an obliteration of the normal tympany in the right upper quadrant; in its place the percussion note would be one of dullness or flatness. If the tenderness on the level with the umbilicus retains normal tympany in the right upper quadrant, this would point to a high lying retrocecal appendix. Another method of differentiating the gall bladder and appendix is by means of Ligat's Test. This test locates areas of hyperaesthesia over an inflamed organ. If the tenderness is due to gall bladder disease then the area of hyperaesthesia, which is elicited by picking up the skin and letting it drop, is present from the umbilicus upwards to the right costal margin. If the tenderness is due to an acute appendix, the area of hyperaesthesia will be found from the umbilicus down to Poupart's ligament.

A rectal examination is done as a routine in every physical examination. More important than the rectal or vaginal examination is a so-called bidigital, which is conducted by placing the index finger in the vagina and the middle finger in the rectum, with the perineum in between. This will immediately orient the examiner so that adnexal pathology is easily discovered.

The laboratory data usually consists of the routine white and differential blood counts and urinalysis. A flat x-ray plate in every acute abdominal condition is a good routine. In this way one may determine whether a calcified gall bladder or visible stones are present. It also gives an indication whether or not the liver is enlarged or ptotic.

PERFORATED PEPTIC ULCER:- This condition is extremely rare in females, and if a perforation is found in the female it is usually due to an ulcerating carcinoma of the stomach. Usually a previous history of peptic ulcer or gastric hemorrhage can be obtained, however, the perforation may be the very first complaint.

The present history reveals that after eating the patient was seized with a sudden pain which doubled him up. Regardless of what he might be doing he immediately stops or actually drops to the floor. The classical picture of perforated peptic ulcer with board-like rigidity and a shock-like syndrome is too well known to bear repetition. Two signs which should be sought for in every perforated peptic ulcer are the findings with auscultation of the abdomen, and the presence of a pneumoperitoneum. Auscultation reveals an absolutely silent abdomen when an ulcer perforates, leaks and soils the peritoneal cavity. This is not new, since the late J. B. Murphy has stressed its importance many decades ago. Making a diagnosis of perforated peptic ulcer is feared in the presence of intestinal sounds. There are the exceptions and one of these will be discussed presently under the subject of forme fruste ulcer. The next sign which helps clinch the diagnosis is the demonstration of a spontaneous pneumoperitoneum. Normally a magenblase or stomach air bubble is present. When the ulcer perforates this air bubble sneaks out of the stomach into the general peritoneal cavity. It can be demonstrated either by percussion or with the fluoroscope. Fluoroscopy is by far the most accurate. The patient is placed on his left side so that the free air bubble may gravitate upward between the liver and the right leaf of the diaphragm. By so doing the liver is displaced downward and separated from the diaphragm. Normally the liver hugs the diaphragm and no air space is visible between them. If this air is of appreciable amount, it obliterates liver dullness with a replacement of tympany to percussion. The sign is easy to demonstrate, quite pathognomonic of perforated peptic ulcer and present in about seventy per cent of all cases.

Special mention should be given to the forme fruste ulcer. The term refers to pin-point perforation in the stomach or duodenum which is immediately sealed over by muscular contraction or by the over lying liver. Therefore, the spillage is minimal and the amount of peritoneal soiling small. This patient may experience a sudden sharp pain in his epigastrium but the typical physical findings are lacking. He may be able to straighten out and walk about. Abdominal sounds may be present and the magenblase still intragastric having had no chance to leave the small perforation. These patients present a rather misleading picture and have been misdiagnosed, however, with the ingestion of their next meal they usually reperforate and present the typical picture.

The temperature, pulse and respirations will depend upon whether or not shock is present. Most perforated peptic ulcers go into a preliminary shock which varies in its intensity. The

shock associated with perforated ulcers responds rapidly to therapy. Within a few hours, however, the classical picture of peritonitis develops with the associated increase in temperature, pulse and respiratory rate.

The contents from a perforated ulcer may pass downward, along the so-called paracolic gutter of Moynihan, pool around the appendix and produce exquisite tenderness at McBurney's point. This patient may then reveal a history of epigastric distress with localization to the right lower quadrant which would be quite suggestive of an acute appendix. Upon exploratory operation free fluid will be found in the peritoneal cavity with all signs of a peritonitis, and a red and injected appendix seen and removed. These patients usually die if the leaking ulcer is overlooked. This catastrophe can be avoided if somebody in the operating room opens the appendix, before closure of the abdomen is instituted, and exposes a normal mucous membrane. We have been taught that acute appendicitis starts on the mucous membrane and travels outward, therefore, when we find serosal involvement with a normal mucous membrane we look elsewhere for the cause of the peritonitis and usually find a perforated peptic ulcer.

Laboratory data includes the flat x-ray plate which has been discussed under the subject of spontaneous pneumoperitoneum. A routine blood count and urinalysis is done. Some of these patients might have bled and although perforated ulcers are known not to produce massive hemorrhage, signs of a secondary anemia may be present.

RENAL COLIC:- Stones are not the only substance which produce renal colics, since the same syndrome may be produced by a small blood clot, inspissated pus, uratic debris, or a kinking of the uretropelvic junction in a ptotic kidney.

The condition is most frequently seen in males and the patient may reveal a history of previous attacks, a hereditary influence, a story of gout or a parathyroid pathology.

The patient complains of a sudden pain which starts in the lumbar region and radiates to a corresponding testicle or vulva. With this pain he becomes extremely restless and thrashes about. It is important to recall that a patient who is experiencing a colic is restless and moves, but one who has a peritonitis lies perfectly quiet and resents being moved. Vomiting is a common symptom as is a frequency of urination. During the act of micturition the colicky pain may be altered.

Physical examination rarely reveals any elevation in temperature, but extremely characteristic of the condition is a bradycardia. It has oft times been stated that when a patient with an acute abdomen has a "clean tongue and a slow pulse" he has a renal colic until proven otherwise. Tenderness is most marked in the region of the twelfth rib on the involved side, and to elicit this finding it is unnecessary and cruel to utilize any type of "punch" test. The tenderness is so exquisite that mild percussion will demonstrate it. We prefer to use the term "Murphy tap" to "Murphy punch." A zone of hyperaesthesia is usually found posteriorly at the level of and slightly below the twelfth rib. If this area is anaesthetized with novocaine the hyperaesthesia and pain disappear.

A flat x-ray plate may reveal a stone if such is present but this is not reliable, since non-opaque substances produce kidney colic. A catheterized specimen of urine usually reveals pus, blood and albumin. The presence or absence of pus and blood in the urine is not pathognomonic, since a stone may completely block the ureter and result in a normal urine. On the other hand, an inflamed appendix may be attached to the ureter, kidney or bladder, resulting in a secondary ureteritis, nephritis or cystitis with an associated hematuria. In such instances the laboratory report may be actually misleading.

ACUTE PANCREATITIS:- The etiology of acute pancreatitis may be summarized in the four "B's", namely, Bacteria, Blood, Bile and Body juices. Any of these may convert the inactive enzymes in the pancreas into the active form. It is important to recall that this disease may appear in one of two forms, either acute edematous pancreatitis or acue hemorrhagic pancreatis. The former presents a mild clinicial picture but the latter which is associated with fat necrosis and occasionally a hemorrhagic peritonitis produces a fulminating one. The acute edematous form usually recovers without therapy but the hemorrhagic pancreatitis requires surgical intervention. It is the hemorrhagic type, therefore, which is important to diagnose and treat promptly.

The patient who develops acute pancreatitis resembles the gall bladder patient, hence, the

condition is more common in females, rarely occurs before the age of forty and is seen in stout people. It usually follows the ingestion of a heavy meal. The attack of pain is dramatic, sudden and excruciating. It is felt in the epigastrium and radiates into one or both loins. It is relieved when the patient sits up or lies on his abdomen and is aggravated when he is on his back. Therefore, in most pancreatic conditions, elevated or on his abdomen. Reflex vomiting or retching almost always occur, emesis which is truly reflex in nature is never feculent.

Physical examination reveals a patient that presents a shock-like syndrome with cold and clammy extremities, temperature subnormal and a rapid thready pulse. Local epigastric tenderness is almost always present and associated with a type of muscular defense which is localized to the same area. The rigidity is not truly board-like in nature and the tenderness is most marked midway between the umbilicus and the xiphoid. An occasional finding is ecchymosis in one or both loins or at times around the umbilicus. This is due to extravasated blood which finds its way around the retroperitoneal space and presents itself as greenish yellow or purplish discolorations. This finding, however, takes two to three days to appear. Mild jaundice is found in about half the cases; this is explained by the fact that the common duct is pressed upon by a swollen head of hte pancreas. Abdominal ausculation usually reveals a quiet but not silent abdomen.

Laboratory findings which aid are an increase in blood or urinary diastase and a glycosuria. Polowe has emphasized the importance of determining the blood amylase activity in terms of cuprous oxide precipitation. He has shown that moderate to marked blood amylase activity is almost always associated with diseases of the pancreas and normal or decreased blood amylase lmost always excludes pancreatitis. A flat x-ray plate of the abdomen may reveal a separation of the upper nd lower limbs of the duodenum brought about by an edema of the head of the pancreas. This latter finding is unusual.

CORONARY OCCULSION:- Although this belongs to the realm of the internist, the general practitioner as well as the surgeon must be on his guard to avoid the fatal error of confusing an acute coronary disease with an acute abdominal condition.

Men are most susceptible to this condition and usually those past the age of forty. A previous history of dyspnea or pain in the chest during exertion or excitement may be elicited. The attack is sudden, with severe pain in the chest which radiates out the left arm, towards the abdomen or both shoulders. There is a sense of impending death with severe fright which usually supercedes the complaint of pain. The radiation may also be towards the epigastrium so that the examiner's attention is directed to the abdomen rather than the chest. A usual complaint during such an attack is one of "indigestion." Although the pain of acute coronary disease may occur in the abdomen it does not become localized, hence, no area of local abdominal tenderness is ever found. Marked abdominal distention may be present in coronary pathology but muscle defense or rectus rigidity are lacking. In abdominal catastrophes the patient lies perfectly quiet, but the coronary resembles the colic in that he is restless and tosses about. The acute cardiac patient presents veins in the neck which are distended and full, in contras to the patient with the surgical abdomen that may appear pale and bloodless. Signs of impaired circulation are revealed by the coronary, such as, dyspnea, orthopnea and cyanosis. Auscultation will usually reveal rales in both bases due to pulmonary congestion. Cardiac enlargement, feeble heart sound and occasionally a pericardial friction rub may be found. During auscultation of the abdomen normal intestinal sounds will be heard which are absent in cases of peritonitis.

Positive electrocardiographic findings are pathognomonic, but one is not always fortunate enough to have an electrocardiogram handy. A leukocytosis may be present some hours after the disease takes place, and the urine is usually negative unless there is associated renal pathology.

We realize that many other conditions at times require differentiation in the acute abdomen, among them, strangulated herniae, terminal ileitis, mesenteric lymphadinitis, ruptured ectopic pregnancy, ruptured graafian follicle, ileocecal tuberculosis, vasitis, torsion of the omentum, volvulus, intussusception, etc., etc., "ad infinitum." However, when one misses one of these unusual conditions he does not feel quite as responsible or guilty as he would having missed one of the forementioned "Big Six."

CRANIOCEREBRAL TRAUMA

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THE management of craniocerebral injuries has passed through two extreme phases and at the present time has reached a seemingly happy medium, although no one knows what new developments may cause the pendulum to swing one way or the other. Twenty-five years ago subtemporal decompressions were the rule rather than the exception. Then years ago, partly due to the influence of Dandy[1] and partly due to the high mortality of surgery, an ultra-conservative "hands off" policy became prevalent. The views of Temple Fay[2], particularly with respect to fluid balance and the effects of dehydration, while not generally followed, added much to our knowledge of the pathological physiology of brain trauma. The first really complete text on head injuries was contributed by Munro[3], and several other good books have been published since. Out of the war has come a vast experience but surprisingly few new developments. The use of tantalum in the repair of large skull defects and improved chemotherapy, however, are notable advances. One who treats many of these cases cannot help observing how surprisingly well many of the severe open cases get along and how often the severe closed and unoperated ones come to a rapid termination. Just what to do about it is still a problem.

A simple outline of the types of head injury will be useful in a discussion of diagnosis and treatment:

CRANIOCEREBRAL TRAUMA—CLASSIFICATION

A. Brain trauma
  1. Concussion
  2. Edema?
  3. Contusion
  4. Laceration
  5. Hemorrhage
    a. Extradural*
    b. Subdural*
    c. Subarachnoid
    d. Intracerebral*

B. Skull fracture
  1. Linear
  2. Basal
  3. Stellate
  4. Compound*
  5. Depressed*

C. Complications
  1. Meningitis
  2. Brain abscess
  3. Cerebrospinal fluid fistula and pneumocephalus*
  4. Skull defect
  5. Convulsions
  6. Posttraumatic syndrome—organic
  7. Psychoneurosis

*Indications for surgery

EXAMINATION OF THE PATIENT

The history of the injury should be obtained if possible, particularly with regard to the state of consciousness. A careful neurological examination is done at the time of admission and the results recorded. This is often limited and brief because of the condition of the patient, but a few significant findings are often the clue to what is happening within the cranial cavity. Even in the most severely injured patient one can determine the level of consciousness by his response to speech and other stimuli, the state of the pupils, rigidity of the neck, the ability to move the extremities, and the status of the reflexes. An observing nurse as well as the doctor will notice that the patient uses one side of the body less than the other, the deepening of coma, and other signs which may indicate improvement or loss of ground. The results of periodic examination should be placed on the chart. Injuries to other parts of the body should be looked for, since an unconscious patient cannot call attention to them.

Of all observations, the state of consciousness is perhaps most important. This may vary from time to time and a careful record should be kept. Confusion, stupor, semi-coma, coma with response to stimuli, and coma without response are terms useful in describing the situation. One does not worry about a patient with a pulse of 50 who is conscious and without headache, but such a pulse is cause for concern in a stuporous patient. Pulse and respirations should be recorded every 15 to 30 minutes and blood pressure and rectal temperature every half hour. Typical changes of these vital signs with increasing intracranial pressure are illustrated in the accompanying graph. (Figure 1). At any point, if pressure begins to improve these will

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begin to return to normal. X-rays should not be taken in the acutely ill patient unless information is needed which may have some bearing on the treatment of the patient. They are necessary in compound fractures, suspected foreign bodies, and suspected middle meningeal hemorrhage. X-rays otherwise should be taken only when the patient is able to be moved to the x-ray department.

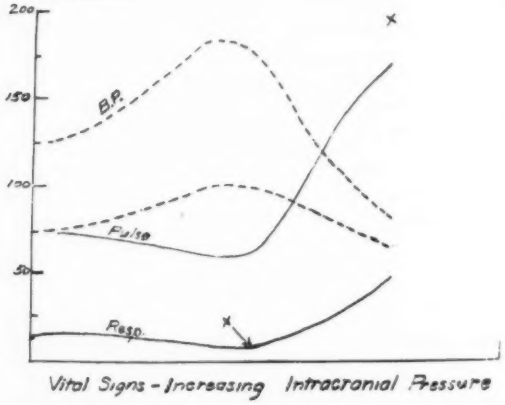

Figure 1. Vital signs with increasing pressure. Death may occur at either "X".

Diagnosis. The differential diagnosis between concussion and contusion cannot be made with any certainty. If coma persists longer than an hour, contusion is probably definite, although hemorrhage is not ruled out. Consciousness, however, does not eliminate contusion, since severe damage may occur at a distance from the hypothalamus and never alter the sensorium. This is particularly true in infants who have thin skulls and ununited sutures which separate under pressure.

Subarachnoid hemorrhage can be suspected from a rigid neck and verified by spinal puncture. Extradural and subdural hemorrhage usually give a history of a period of return to consciousness followed by coma—the former extending over hours, the latter taking days or weeks to produce severe symptoms.

TREATMENT OF CLOSED CRANIO-CEEBRAL INJURIES

More than the majority of cases will fall in the closed or non-operative group. Careful watch must be kept for complications which may call for sugrical interference. Such indications will be more easily thought of if one bears in mind the sequence of events which takes place in the usual case. As a rule, there is a certain amount of concussion and contusion of the brain which increases for 48 to 72 hours and then subsides. Subarachnoid bleeding may also be present in varying degrees and can be ascertained by spinal puncture. At the end of 72 hours the swelling of the brain should begin to recede and, if no great amount of subsarachnoid hemorrhage is present, the level of consciousness, as well as the circulatory and respiratory findings, should begin to improve. In the severe case, the damage may be so extensive that swelling of the brain must lead to death in 48 hours or less.

If within 72 hours the vital signs reach dangerous levels, the surgeon must decide whether or not the original injury explains the hopeless situation or whether there may be some complication which can be relieved by surgery. The signs which may be considered as critical are:

1. Coma without response to painful stimuli.
2. Dilated and fixed pupils.
3. Temperature over 102.6 rectally.
4. Respirations under 12 or over 35.
5. Pulse under 60 or over 120.
6. Systolic blood pressure over 160 or pulse pressure under 25 mm.

In addition to close observation and frequent checking, treatment should be directed toward certain signs and symptoms and with respect to the need of certain therapeutic agents.

Oxygen. Since unconsciousness is usually due to varying degrees of anoxia, all unconscious patients should receive 2 to 5 liters per minute by nasal catheter or other suitable method. Marked restlessness may make this difficult, but in such cases the need is not as great. Deep coma, cyanosis, or respiratory difficulty make oxygen imperative.

Position of Patient. The patient's head should be turned to the side so that the tongue will not obstruct respirations. If necessary, the patient should be placed on his side or partly over on the abdomen so that the tongue falls forward. If a swallowing reflex is present (level of coma not deep), the head should be moderately elevated, but otherwise the head should be level with the body. A patient can drown from secretions of the mouth and throat if these pass an open glottis into the lungs. This gives the findings of pulmonary edema or "filling up" and is a mechanical rather than circulatory effect. Frequent suction in the throat will aid in clearing away mucuous.

Spinal Puncture. A diagnostic puncture is worth while to determine pressure and presence

of blood. A water manometer is desirable, but the blood pressure sphygmomanometer is a satisfactory substitute. Any pressure over 200 mm. of H_2O (15½ mm. mercury) may be considered as elevated. At no time should the pressure be reduced more than half. Some patients are benefited by drainage. These have a sterile meningitis from irritation of blood, exhibit stiff necks, and have excessive fluid as demonstrated by the large amount which must be removed to reduce the pressure. Improvement following puncture is immediate. Many patients, however, show little blood in the spinal fluid and if there is considerable brain swelling, may be harmed by spinal puncture. If punctures are beneficial, they may be repeated every 12 to 24 hours.

Dehydration. The use of prolonged dehydration has been disappointing, and in warm climates is definitely harmful. The fluid intake should be kept at 1250 to 1050 cc. in 24 hours, or more in elderly individuals who, because of kidney insufficiency, may lose fluids. This should be given intravenously, and saline solutions should be avoided since they may produce edema. The temporary dehydrating effect of concentrated glucose or sucrose may be employed to some advantage during the period of greatest pressure.

Hyperthermia. The high temperature which may accompany head injuries is usually due to disturbance of the hypothalamus and is likely to result in death if it is allowed to exceed 103 degrees. If it occurs, it should be combatted by sufficient fluid intake, cool sponging, and, if necessary, as many as half a dozen ice caps laid alongside the body and supplemented with ice water enemas.

Circulatory Failure. With falling blood pressure and rapid pulse, first attention should be directed toward the control of intracranial pressure. Adrenal cortex is quite effective, but the usual stimulants have only slight effect. Plasma or whole blood may be used for true shock.

Sedatives. Restlessness, if not too severe, does little harm and it is not necessary to keep the patient completely sedated. Morphine should never be used. It is a respiratory depressant and, according to Gurdjian, Webster and Sprunk[4], definitely increases intracranial pressure. Sodium phenobarital gr. 3 intramuscularly every four to six hours is usually sufficient. Paraldehyde by rectum may be used. If there is real pain, codeine sulfate in ½ to ¾ gr. doses may be given.

All patients not mentally clear should be admitted to the hospital. If the patient comes to the emergency room after a mild head injury and the examination reveals no abnormal findings, it is well to make certain that some relative will stay nearby and wake the patient once or twice during the night.

INDICATIONS FOR SURGERY

Extradural Hematoma usually follows an injury to the middle meningeal artery. The patient often regans consciousness only to lapse into coma after several hours. The time for action is limited. Failure to recognize the condition within six to twelve hours usually means that the opportunity for successful surgery has been lost. This is one condition in which the surgery is not difficult and which should be familiar to the practitoner. An operation by a novice is far more likely to succeed than one by a skilled neurosurgeon if twenty-four hours is required to obtain his services. The presence of a lucid interval followed by rapidly deepening coma should make one suspect the diagnosis. Jacksonian convulsions and unilateral paralysis may or may not occur. The dilated, fixed pupil, while useful in diagnosis, is often a late sign.

Subdural Hematoma is usually subacute or chronic and may simulate brain tumor. Signs of increasing pressure, headache, vomiting, stupor, etc., coming on from days to even months after an injury should make one suspicious.

Compound-depressed Fracture. All compound fractures should be thoroughly debrided as soon as possible, with careful washing out of devitalized brain and foreign material and closure of the dura. The scalp should be closed in two layers. With the use of penicillin and surfadiazine it should be possible to replace the bone fragments except in the dirtiest wounds. Simple depressed fractures are not emergencies as a rule and may be elevated when the condition of the patient warrants it.

Skull Defects. Large skull defects can be successfully closed wth tantalum or acrylic; but in spite of the great advances made possible by these materials, there is everything to be gained by replacing bone, even at slight risk of infection, and the use of osteoperiosteal grafts at least in the small defects.

Cerebrospinal Fluid Fistulas usually occur from the ear or nose and, as a rule, will stop

spontaneously within a week. Sulfadiazine should be given and the patient should be prevented from blowing his nose. The naval type may persist, necessitating closure from above by craniotomy.

CONVALESCENCE

It is felt that the patient should be allowed to sit up in bed and get up as soon as he can do so comfortably. Mild activity may be resumed within three to six weeks, depending upon the severity of the injury. Much can be accomplished by abolishing the air of mysticism with regard to head injuries and by reassurance. Whenever a patient begins to worry about the seriousness of his injury, I quickly tell him a story of a more serious case who made a complete recovery. It is well for these people to stay out of the hot sun for several months and to avoid severe exertion, but this should not be carried too far. The majority of head injuries, if not all, recover completely.

COMPLICATIONS

Meningitis and *brain abscess* are much more successfully treated with the advent of chemotherapy. Sulfadiazine should be used in preference to sulfathiazole which is not secreted in the spinal fluid. Although pencillin does not appear in the spinal fluid, it should be used. The use of these drugs does not cure brain abscess but greatly reduces surgical mortality.

Convulsions follow less than seven per cent of head injuries. The incidence is higher in penetrating wounds. The majority appear between two and five years after the trauma and may be controlled by anticonvulsant drugs (phenobarbital and dilantin).

The organic *posttraumatic syndrome* and posttraumatic *psychoneurosis* constitute problems too big to discuss here, but it is believed that much can be accomplished by reassuring the patient, getting him out of bed as soon as feasible, and by early settlement of claims. Differentiation between malingering, organic headache, and psychoneurotic headache may be difficult; but, as a rule, the malingerer will not submit to spinal fluid studies and pneumoencephalography. The patient with organic headache is kept awake at night; and the psychoneurotic is very nervous, suffers terribly, and sleeps comfortably.

CONCLUSIONS

Craniocerebral trauma constitutes one of the major neurosurgical problems. In recent years, methods of diagnosis and treatment have become more or less standardized and there has been considerable improvement in results. An attempt has been made to outline the types of injury and accepted forms of management.

When treating a head injury case, it is well to remember that the majority will recover on conservative therapy, and it is well to make sure that each procedure we do has some definite reason back of it. When considering spinal puncture, the taking of x-rays, the administration of fluids, and other treatments, we might stop and ask the questions, Will it harm the patient? Will the patient be benefited?

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BILATERAL HYPOPLASIA OF KIDNEYS WITH REPORT OF A CASE

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HYPOPLASIA of the kidneys is an anomaly of infrequent occurrence.[1, 3] It may be unilateral or bilaterial. If the former, it is quite compatible with life and normal development. It may be discovered as an accidental finding at postmortem, or in the course of investigation of the urogenital system. Marked bilateral hypoplasia is incompatible with normal development of the infant and frequently with life itself. Emerson and Lazarus[2] review 18,460 urological admissions. The total incidence of congenital anomalies in this series was 2.5%. Bilaterial hypoplasia constituted a clinical incidence of one in 3,692 cases, or .00027%.

We are reporting a case of bilateral hypoplasia of the kidneys in a male infant who survived approximately 10 weeks. The child was born on May 21, 1946 and weighed 5 pounds, 6 ounces

at birth. He was admitted to the hospital at two months of age and weighed 5 pounds, 8 ounces. The history prior to admission indicated the child did not eat well, but there had been no nausea or vomiting. During the two weeks before admission he had several convulsve episodes. A physician was finally consulted because of the onset of hyperpyrexia.

Physical examination revealed an irritable, very dehydrated infant, acutely but not critically ill. His mucous membranes were pale; there was a thick muco-purulent nasal discharge and both eardrums were hyperemic and bulging. The lungs revealed crepitant rales in both bases. The liver and spleen were palpable but not remarkably enlarged. Physical findings were otherwise non-contributory. Laboratory findings revealed Wassermann negative, stools negative, tuberculin skin test negative. The hemoglobin was 7.5 grams or 48%. The red count was 2,590,000; the color index was 1. There was anisocytosis and slight hyperchromia, the white count was 14,950, 34% lymphocytes, 76% polymorphonuclears. The bleeding time was 3.5 minutes, the coagulation time 4.0 minutes. The urine was straw-colored, slightly cloudy, pH 6.0. There was a slight trace of albumen, 1-3 epithelial cells, 15-20 pus cells, 1-5 red blood cells per high power field.

The child was treated with penicillin following paracentesis to relieve middle ear pressure. The child received two transfusions of 100 cc each of whole blood on successive days after admission. He seemed to respond quite well to the above therapy. The admission temperature of 101 degrees dropped to normal the next day and remained normal until the child's discharge on 7-18-46. At this time the urine revealed only an occasional epithelial cell, a pH of 7.5 and was negative for albumen, pus or blood. The specific gravity was not recorded on either urine specimen. The red count at the time of discharge was within normal limits. The white count was still elevated, being 17,600.

The child was readmitted to the hospital on 7-25-46 in extremis. The respirations were rapid, short and labored and the anterior fontanelle was bulging. The child was in semicomatose state and failed to respond to external stimulation. The child's temperature was 103 degrees Fahrenheit, rectally. X-ray of the chest taken at this time was negative. The diagnosis entertained at this time were: (1) Intracranial hemorrhage, (2) Subdural hematoma, (3) Meningitis, possibly with a subarachnoid block.

Subdural puncture failed to aspirate fluid, and spinal puncture revealed an essentially normal fluid under somewhat increased pressure which was not measured. The child expired shortly after admission. The terminal N.P.N. was 172.0.

The pathological findings were as follows:

I. Gross Examination: Each kidney weighed 3.0 grams and measured 1 x 1.5 x 5 mms. Fine cortical cysts peppered the surface. On Coronal section the cortex measured 2-2.5 in width; the pyramids were not discernible, calyces and pelves small and contracted. The ureters were 1 mm in diameter, the lumena not grossly discernible.

II. Microscopic Examination: The capsule showed focal areas of connective tissue proliferation. Several small islands of tissue resembling adrenal rests were found in the cortex. Most of the tubules of the cortex showed marked dilitation. The larger of these cystic spaces were lined by flattened endothelial-like cells. The smaller dilated tubules were lined by a low cuboidal cell. The glomeruli were decreased in number, varied in size, but were otherwise histologically normal. Some of the Bowman's capsules were dilated. The collecting tubules also showed a slight to moderate dilitation. The calices, in some areas, showed papillary-like projections, the stroma of which were fibroblastic. The papillae were covered by multiple layers of epithelial cells. The The arteries and veins showed no unusual histological changes.

The lumena of the ureters appeared somewhat narrowed but were clearly patent throughout. The inner lining of the ureters was comprised of 5-6 layers of transitional epithelial cells.

III. Pathological Diagnosis:
Renal hypoplasia, bilaterial.

We have presented a case of bilateral hypoplasia of the kidneys in which the infant survived ten weeks.

Of particular interest is the normal urinary findings following the recovery from an otitic infection. The acute breakdown almost im-

mediately afterward may have been precipitated by the infectious process.

While the condition is rare it should be kept in mind when signs of increased in tracranial pressure is present in infants — this despite the normal urine.

This degree of pathology is incompatible with life. Of greater importance is to make the diagnosis when the condition is unilateral and there is pathology in the normal size kidney as hypoplastic kidneys are incapable of undergoing compensatory hypertrophy.

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THE EFFECT OF ALTERING THE IONIC CONTENT OR SERA IN VIVO ON SYPHILIS SEROLOGY

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and
T. R. REUSSER[3]

THE prevailing concept of syphilis serology is that in the infected person's bloodstream there exists an antibody-like substance to which the term "reagin" has been given. This reagin is supposed to react with the lyophile colloid, the antigen or indicator, shifting it to a lyophobe colloid and thereby producing a floc. This reagin seems to be present in syphilis with marked regularity, and also it seems to be in the bloodstream of non-siphilitic individuals to an alarming degree of regularity. Just why this reagin or syphilitic antibody should appear in patients ill with diseases other than syphilis remains unexplained.

In a series of recent articles by Breazeale[1], Breazeale, Reusser, and Pierce[2], Breazeale and Pierce[3,4], and Pierce and Breazeale[5], the mechanism of the flocculation tests has been studied. These investigators have been able to shift the reactivity of negative and positive sera by simple mechanical manipulation. Breazeale[1], and Breazeale and Pierce[1] have shown that the serology of human and animal sera may be shifted by means of electromagnetic radiations. These investigators were able to reverse the serology of positive sera (from known syphilities) by exposing the sera to ultraviolet ray light for 60 to 90 minutes. However, this same irradiated sera return to its original reactivity in 24 hours after exposure to the light, which would indicate that some substance was shifted in solubility or ionization. Later Breazeale, Reusser and Pierce[2] showed that by treating positive sera with monovalent base zeolites (hydrogen zeolite being an exception) they could be made sero-negative. Conversely negative sera could be made sero-positive by treating with divalent base zeolites, hydrogen zeolite again being an exception. Pierce and Breazeale[5] have shown that the syphilitic antigens, or indicators, as we know them today are functioning in the tests purely as zeolites, and that the production of a floc in any of these tests was due to the divalent cations available in the sera. Breazeale and Pierce[3] have applied this phenomenon to a test for syphilis using pure zeolite as an indicator.

In view of the fact that the serology of human and animal sera could be shifted *in vitro* by the change in ionic constituents it seemed advisable to determine what effect changing the ionic content of blood sera *in vivo* might have on the serological findings. Therefore, these experiments were undertaken.

EXPERIMENTAL

Rabbits were the animals used in the preliminary experiments because they were readily available, blood samples were easy to obtain and they gave uniformly negative seerological results.

A series of three adult rabbits, each weighing three kilograms, was injected intravenously with 33 mg. of calcium as calcium chloride, or the equivalent of 11 mg. per kilo of body weight. Blood samples were obtained from the ears at 0, 1½, 6, 10, 20, and 24 hours. Calcium was determined on each sample using the method of Clark and Collip[6]. Standard Kline, Kahn and Mazzini determinations were performed on each

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sample of sera. The results are given in Table I.

TABLE I.

The effect of Injecting 33mg. of Ca as $CaCl_2$ into Adult Rabbits

Hours after injection	Mg. Ca per 100 cc. sera	Serological Results (Kahn, Kline and Mazzini)
0	7.5	negative
1½	10.0	3+
6	11.0	4+
10	10.0	3+
20	7.5	negative
24	7.5	negative

A second series of rabbits, weighing three kilograms each, was given 33 *units* of parathoid extract into the hip muscle. Samples of blood were drawn from the etr vein at 0, 24, 72, 120, 144, and 168 hours. Calcium and serological results were determined as on the previous animals. The results are given in Table II.

TABLE II.

The Effect of Injecting 33 Units of Parathyroid Extract Intra-muscularly into Rabbits

Hours after injection	Calcium, Mg. per 100 cc. sera	Serological findings (Kline, Kahn and Mazzini)
0	7.5	negative
24	12.5	4+
48	12.0	3+
72	11.0	2+
120	10.0	2+
144	9.0	1+
168	7.5	negative

These two experiments were performed by actually injecting calcium or a hormone into the animal. In order to avoid actually injecting the animal with any substance, Ertron (Vitamin D concentrate) was fed to the animals in ground carrots. A series of three rabbits was used and varying amounts of Ertron given each animal. *One* received 100,000 units, *Two*, 150,00 units and *Three*, 200,00 units. Blood samples were drawn at intervals of 0, 24, 48, 96, and 144 hours after feeding. Serum calcium and serology were run on each sample as outlined above.

TABLE III.

The Effect of Feeding Massive Amounts of Vitamin D on Serum Calcium and Serology

Rabbit No.	1	2	3	1	2	3
Hours after feeding	Ms. Calcium per 100 cc. Sera			Serological findings		
0	7.5	7.5	7.5	neg.	neg.	neg.
24	11.0	14.0	16.0	2+	3+	4+
48	10.5	13.0	17.0	1+	2+	4+
96	8.0	9.0	11.0	neg.	neg.	4+
144	7.5	7.5	7.5	neg.	neg.	neg.
168	7.5	7.5	7.5	neg.	neg.	neg.

The first experiments of the calcium chloride were repeated using calcium glucinate with identical results. In view of the fact that the rabbits responded to the calcium when injected intravenously, the senior author received 1 gm. of calcium glucinate intravenously and serum calcium and serology were run at intervals of 0, 8, 24, 48, 60, and 72 hours. The results are given in Table IV.

TABLE IV.

Effect of Injecting a Human with 1 gm. of Calcium Glucinate Intravenously on Serum Calcium and Serological Findings

Hrs. after injection	Serum calcium per 100 cc.	Serology
0	10.0	Neg.
8	11.5	2+
24	12.5	3+
48	11.0	1+
60	10.0	Neg.
72	10.0	Neg.

Earlier experiments[2, 3, 5] have shown that when theree is a relatively high concentration of divalent cations as compared to the monovalent cations floculation of the indicator will be produced. Therefore it seemed probable that the above experiments could be repeated and supress the effect of the increaseed calcium by injecting a strong solution of sodium chloride along with the calcium chloride. Three rabbits, each weighing approximately 4 kilograms, were treated as follows:

Rabbit 1—given 50 mg. Ca as $CaCl_2$.

Rabbit 2—given 50 mg. Ca as $CaCl_2$ and 150

Rabbit 2—given 50 mg. Ca as $CaCl_2$ and 150 mg. Na as NaCl.

Rabbit 3—given 150 mg. Na as NaCl.

Blood sample were drawn at intervals of 0, 3, 10, 16, 24, 36, and 40 hours after treatment, and serum calcium and serology run on each, using methods outlined above. The results are given in Table 5.

TABLE 5

The Effect of Injecting NaCl with $CaCl_2$ on the serum Calcium and Serology of Rabbits

Hours after injection	Serum Calcium mg. per 100 cc.			Serological Findings		
Rabbit No.	1	2	3	1	2	3
0	10.0	10.0	10.0	Neg.	Neg.	Neg.
3	14.5	14.0	10.0	1+	Neg.	Neg.
10	14.75	14.75	10.0	2+	Neg.	Neg.
16	15.5	15.5	10.0	4+	4+	Neg.
24	11.5	11.5	10.0	4+	3+	Neg.
36	10.0	10.0	10.0	Neg.	Neg.	Neg.
40	10.0	10.0	10.0	Neg.	Neg.	Neg.

In view of the fact that the effect of the $CaCl_2$ could be temporarily neutralized by injecting $NaCl_2$ could be temporarily neutralized by injecting NaCl simultaneously with the calcium,

it seemed advisable to determine if the serology could be altered once the calcium level had been raised. A series of three rabbits, each weighing 3 kilograms, was treated as follows:

Rabbit 1—50 mg. Ca as $CaCl_2$ intravenously
18 hrs. later 100 mg. Na as NaCl
34 hrs. later 100 mg. Na as NaCl.

Rabbit 2—Same as Rabbit 1.

Rabbit 3—No further treatment. Control. 50 mg. Ca as $CaCl_2$.

Blood samples were taken at 0, 18, 20, 34, 36, 42, 60, 70, and 80 hours after the initial injection. Serum calcium and serology were run on each specimen. The results are given in Table 6.

TABLE 6

The Effect of Injecting NaCl after Injecting $CaCl_2$ on the Serum Calcium and Serology of Rabbits

Hrs. after primary injection	Serum Calcium mg. per 100 cc.			Serological Findings		
Rabbit No:	1	2	3	1	2	3
0	10.0	10.0	10.0	Neg	Neg.	Neg.
18	15.0	15.0	15.0	3+	3+	3+
20	15.0	14.75	14.5	1+	Neg.	4+
34	14.0	13.5	13.5	3+	3+	3+
36	14.0	13.5	13.5	1+	Neg.	3+
42	13.5	13.0	13.0	2+	2+	2+
60	12.0	11.0	10.5	1+	Neg.	Neg.
70	10.0	10.0	10.0	Neg	Neg.	Neg.
80	10.0	10.0	10.0	Neg	Neg.	Neg.

A series of six human volunteers took massive doses of Vitamin D in the form of Ertron. All doses were divided into four portions and taken over a period of 48 hours. The first sample of blood was taken 24 hours after the last dose of vitamins was taken. The results given at zero time constitute the control and were taken before any treatment was started. The six subjects received the following amounts of Vitamin D:

Patient	Vitamin D Units
1	600,000
2	650,000
3	700,000
4	800,000
5	900,000
6	1,000,000

Blood samples were drawn at intervals of 24, 48, 72, and 96 hours after the last dose of vitamins was given. The calcium content and serological reactions were run as previously described. The results are given in table 7.

TABLE 7

The Effect of Massive Doses of Vitamin D on Human Subjects as Affecting Their Serum Calcium and Serological Reactions

Hrs. after last dose	Mg. Ca in 100 cc. Serum						Serology					
Patient	1	2	3	4	5	6	1	2	3	4	5	6
0	10.5	10.0	9.5	10.0	9.5	9.5	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
24	14.0	14.0	12.0	11.0	11.0	11.0	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
48	10.5	12.0	12.5	12.0	12.0	12.5	Neg.	Neg.	Neg.	Neg.	1+	Neg.
72	10.5	10.0	11.0	10.5	11.0	9.5	2+	2+	1+	1+	1+	1+
96	10.5	10.0	9.5	10.0	9.5	9.5	Neg.	1+	1+	1+	2+	2+

CONCLUSIONS

1. Positive serology is obtained whenever there an increase in the blood calcium.

2. This increase may be brought about either by injection of the calcium as the glucinate, or by the use of parathyroid extract or Vitamin D concentrate.

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"NATIONAL ENROLLMENT"

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CONTROVERSY, confusion and wide difference of opinion of how to reach the same goal is always part of the evolution of any great endeavor. There also comes a time in the evolution when controversy and confusion are cleared away and opinions come closer together, resulting in a co-ordinated and unfied effort to achieve the same purpose.

We have the problem of distributing quickly to the majority of the public a way of prepaying the costs of health care.

We who are engaged in the actual selling or educating of the public are hampered because of the stage of our evolution. Great strides toward the goal will be reached during the next stage if it is reached quickly.

The public has come to think of medical care as the broad category of care necessary for recovery when ill. This includes hospitalization, surgery, nursing service, x-ray, anesthetic, general medical treatment, home calls, office calls, etc. Development of plans for prepaid surgery and care for non-surgical illnesses when hospitalized is another step toward a well-rounded program of prepaid health care, a program to cover the cost of being ill.

The public thinks of and wants to buy a complete health program covering all the costs of being ill. They want to buy a product, and this is logical and reasonable. It's the easiest way to buy. They have been educated to buy in this way.

Our whole history of distribution of goods has followed this trend. Compare the employer with the retailer and the Plans as the wholesaler, since primarily our backbone is group enrollment. Where would the retailer be if he had to deal with hundreds of manufacturers in order to obtain his product or line? We are the middle men, if you will, and we must present to the retailer a line or a product that he can sell the public, his employees.

We need more wholesalers and more retailers badly. There are blank spots for national distribution, yet what we need first of all is a product.

Selling the public medical plans should be easier, and medical plans should grow faster than Blue Cross plans because much public acceptance has already been obtained, much of the hard groundwork has been done in selling Blue Cross. This, of course, is true only if medical plans and hospital plans are sold as a co-ordinated program of prepayment health care. Too much importance cannot be made of this. To quote current figures provided by the Blue Cross Commission, enrollment in 39 medical and surgical plans, co-ordinated with Blue Cross Hospital Service Plans, reached a total membership of 3,026,466 on July 1st after a second quarter growth of 384,395 members, the largest in their history. To compare with Blue Cross in the same area it is significant that during the first 6 months of 1946 these plans grew at a rate of 43.9 per cent as fast as Blue Cross in the 35 areas reporting figures for both types of service. Total medical-surgical plan memberships in these areas was 22.7 per cent of Blue Cross memberships on July 1st, 1946.

In some areas the co-ordination of the hospital and medical plans has been very successful, resulting in one sales force distributing a package and the public buying it as such.

In other areas this is not the case. Sometimes the co-ordination is weak; the older hospital plan looks upon the medical plan as an intruder or a nuisance. Separate literature and applications are used. The medical-surgical plan is sold as an afterthought, or if people ask for it. It is only looked upon as something to complicate the routine.

In some areas one sales organization sells hospitalization, while another sells the medical-surgical plan.

Commercial insurance companies have for years emphasized the package plan to large employers as the easiest and most convenient way to buy. Can we dispute this, or shouldn't we take advantage of this education with a better package to offer? There are advantages to both Blue Cross and medical plans in selling both as one health care program. The medical care plans gain, in most cases, good reputation and free entry into hundreds of preferred accounts. Hospital plans gain memberships by obtaining groups that would be unobtainable without the additional medical care coverage.

The advent of medical care plans has made the program more appealing to big business management and national employers, who are constantly being contacted by commercials selling a program or package plan.

Selling Blue Cross and medical plans as a combined program makes those groups, covered by commercial insurance, the best prospects. Due to inflationary trends, minimum coverage and lack of or downgrading of dependents coverage offered by commercials, evidence of dissatisfaction is nearly always present.

There may be some criticism of this idea. I have heard that some plans will not contact a business already covered by a commercial.

Isn't this wrong? Why should we not have these prestige groups? Usually they are large employers having national and local reputation. Also, the risk is better because of the type of employee and the assured high percentage of enrollment. We not only need the prestige of these groups, but we need their better experience to enable us to keep rates at the lowest possible level for our Community.

We must continue to force the commercials to improve their contracts to get their share of the business. In providing standards for them, we have already achieved much for both the public and the profession. Anyone who has observed the trend of the last 10 years can see a marked difference between the contract offered 10 years ago and the one they have on the streets today.

We must make a bid for these large national accounts. Some progress and effort is being made, but it is bent under the strain, not only of obtaining the account but of keeping it.

Medical plans should use their resources and experience and quickly establish a national commission of medical plans and co-ordinate their efforts with those of Blue Cross. Surely, we should not make their mistakes, but take advantage of them. The national account is unapproachable without a well co-ordinated program. Many of us have enrolled national accounts, but how long will we keep them?

We know of the problems of not being able to speak with authority for another area; of the correspondence required to determine what the other plan will do; the requests for supplies, which usually requires a wire or a phone call at the last minute to obtain them in time; the assembling of from 15 to 50 different sets of literature and a like number of applications. Where the medical and hospital plans use different literature and applications, the number is doubled. You or your salesman has a pretty confused and complicated program to present to the prospect.

Then comes the problem of writing a procedure for handling the group and getting agreement from all plans concerned—either that or asking the account to do this way with one plan and that way with another, to remember and keep up with the different rules and regulations of 10, 20 or 30 different organizations—something you can't do yourself.

We heard an interesting story with respect to the attempt by the Blue Cross plan in Cincinnati to sell the Kroger Grocery and Baking Company, having some 45,000 employees, on a national enrollment in Blue Cross and Medical plans. At a meeting of the executives and employee representatives, a blackboard the entire length of the room was used to illustrate the differences in the hospital and medical plans involved. The Kroger Company is not enrolled at this time.

Shortly after the establishment of the national enrollment office, we wrote requesting a national proposal for enrolling the employees of the Western Auto Supply Company in Blue Cross and medical plans. We sent them all the locations involved, which comprised much of the Eastern part of the United States, and after much correspondence and delay we finally received the proposal, and we understood why the delay.

It was a legal size brochure of 16 typewritten pages, charts showing various phases of the benefits, all the different rates, and each page carefully footnoted to point out variances of benefits and regulations. Discouraged, we took the proposal to the account. We were on the verge of closing the account just on the merits of the local plan. Today we are still negotiating with them.

Recently we started negotiating with TWA, Trans World Airlines. The Company had a combination Mutual Benefit and commercial insurance setup with which the company and employees alike were very dissatisfied. They were interested in non-profit hospital and medical plans if—the non-profit plans could provide them with a satisfactory program that could be administered.

We set to work, and after making our own charts on benefits and rates of the 35 plans involved, we offered TWA this proposal, and we believe took steps to eliminate some of the problems of presentation to a national account. First, we took the minimum benefits—not maximum—only those benefits listed in every hospital and medical contract and listed them with only two qualifications. Qualifying the hospital benefits, we stated "Hospital benefits listed are as furnished by each Blue Cross plan to the extent and limitations of its contracts with local hospitals." Qualifying the surgical-medical benefits, we stated, "Benefits are as furnished by local medical plans to the extent and limitations of its contracts as approved by the medical profession."

We dealt with problem of rates as follows: "Blue Cross and affiliated medical surgical plans are offering Trans World Airlines a uniform rates for all employees in all locations, with the provision that Trans World Airlines will participate in the cost of the coverage. This

rate will be for stated intervals and raised or lowered depending upon the concentration of employees or a raise of rates by a plan in a concentrated area. Suggested interval would be six months." We then quoted a uniform rate for each classification.

The rate was arrived at in this manner: The number of employees in each area was obtained from TWA; the number of each classification was obtained by using an average of the number of single, man and wife, or full family contracts. Those totals were averaged among all plans participating and this averge rate loaded slightly to provide for administrative costs, and was quoted to TWA. Each plan of course would be paid their regular rate for the employees in their area.

You can see this could only be done where the company is willing to pay a substantial part of the cost so that in each area the employee is paying less than the local plan rates.

We further agreed that the administration of the plan would be handled by one plan and all contact would be with one organization. There would be uniform applications and literature, centralized billing, a uniform procedure for accepting new applications and handling transfers, and immediate benefits in any area upon transfer of the employee to that area.

Of course, this proposal was made with the provision that all plans will agree. But will the plans involved agree? This remains to be seen. From the contacts we have had, it appears they will. TWA is not a closed account yet, but the proposal was received with enthusiasm. Should TWA and the plans concerned agree, progress has been made toward a solution of handling a national account. But this would be just a step in the right direction.

The immediate needs to present a program to a national employer are:

1. A uniform rate for employees in all locations.
2. Uniform procedures, rules and regulations.
3. Common application cards and literature.
4. Central billing and collection.
5. Comparable benefits.
6. Complete reciprocity of benefits (at least for national accounts).
7. Immediate transfer privileges.

For each plan to have uniform rates is not necessary. A weighted average can be used. A uniform contract is not necessary, but we must get closer together on the basic benefits, our rules and regulations and our mode of operation. Selling the national employer on the idea that he should enroll his employees in local non-profit plans because they receive benefits designed particularly for people residing in that area is a good sales argument and is successful. Yet we should be able to say this without fear of being called to account for a misstatement.

The national employer is reasonable and understanding of our problem. He understands why a baby costs $50 in one area and $75 in another. He understands why hospital rooms cost $6 in one area and $4 in another. He deals with these problems in his own business. What he can't understand is why it takes 9 months to have a baby in one area, 12 months in another and 10 months in another, or why this plan pays for surgery only in a hospital, while this one pays for it wherever it may occur. Or why if he sends one of his employees to one end of his system and the employee becomes ill, why that employee does not get at least the benefits available to his employees in that area.

Reciprocity for national account employees is a must. To illustrate, we have a national account, a small one of 800 or 900 employees, yet 8 or 9 plans are involved in the handling of this account. The company is expanding and transferring key employees from one area to another. One particular employee took the coverage in Iowa, stayed there for a year or two, was transferred to Minnesota, stayed there for awhile and was sent to Nebraska temporarily to go later to South Dakota. His wife was expecting, so he sent her home to Iowa to have the baby until he had a permanent location (a perfectly normal thing to do.) Not wanting to transfer the membership to Nebraska and then to South Dakota, the Company left his membership in Minnesota. Then his wife had the baby—Iowa and Minnesota have no reciprocity, so the plan paid out-of-town emergency benefits. He appealed to his employer and the trouble began! Did we have logical and reasonable explanation to make to the employer or to his employee? Of course not!

Obtaining a national accounnt is only a small part or a start of the problem. The difficulities in handling one would fill many pages. It is a fact that many plan executives hate to see a national account come into their offices because they know the grief it will bring.

We understand that since the establishment of a national enrollment office by the Blue Cross, the people employed by the national enrollment office have spent the great majority of their time not in front of the national employer, bnt in dealing with the plans around the country.

The larger the account the more complicated and costly it is to handle. Yet with our commercial competitors, the reverse of this situation is true.

Recently a special committee appointed to study problems of billing and to suggest ways of co-ordinating efforts of Blue Cross plans in connection with national enrollment, reported to the Blue Cross Commission many suggestions for improving the situation. Most of these were good. We would like to quote just one:

"Each plan will designate one staff member of executive capacity to be responsible for interplan relations with national accounts."

To carry this thought a little further, we have the heart of the whole trouble. We have been trying to do a mail order business from a retail outlet.

To expect a national account or any account where more than one plan is involved to fit into or be superimposed upon a system designed to handle local accounts, or where only one plan is concerned, is rediculouse.

The two operations are different and distinct and national enrollment requires different methods from the point of sale through the whole operating function of any plan. Each plan should not only have an executive in charge of national accounts, but a whole division, department or a person, depending upon the volume of this type of business in theih particular area, to handle the entire operation of national accounts.

The smooth handling of national accounts and co-ordination of effort of plans in this regard can be accomplished. Can't we be provincial and national at the same time?

It would seem that a national commission of medical care plans, working closely and in cooperation with the Blue Cross Commission, could go farther towards solving this problem. By picking key men in strategic areas to agree on formulas and methods of solving these problems —each man to spend part time with the plans in his areas, with the executives and Boards of Trustees of those plans—to help suggest and convince them of the necessity for establishing a program for preseentation to national accounts. Certainly the talent is available. Certainly the time would be well spent.

Now we all wonder why we are enrolling some national accounts and why we keep some we have. It must be that they believe in the future of non-profit prepaid plans for health care. If this is true, there are many more waiting for the time when we can present an acceptable program to them.

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Editorials

Professional Courtesy

No professional group is more entitled to hold heads high in pride of accomplishment than Doctors of Medicine. Probably no group is subjected to more criticism by the laity, nor is the object of more sweeping legislative revolution. Only by unity of purpose, highly ethical conduct, and meticulous attention to the welfare of the patient, regardless of his economic status, can the profession hope to ride out the storm now raging.

Unfortunately a few individual physicians have the extremely bad taste of criticizing the care their contemporaries have given patients, openly to the patients and to their relatives. The prerogative for a patient to change to another physician is a sacred one. However, it is indeed unbecoming for the new physician to imply either by word or insinuation that the former physician was incompetent. Such conduct is unprofessional, unethical and reprehensible and serves no real purpose except to promote distrust of the medical profession as a whole. The old adage "if you can't say something good about a person, say nothing" still holds good. The Golden Rule will never become obsolete.

The Southwestern Medical Association

The Southwestern Medical Association which suspended activities at the beginning of the war held its first post-war meeting in El Paso November 14, 15, and 16. The program was presented by the following guest speakers: Dr. Nelson W. Barker, Rochester, Minnesota; Dr. Paul O'Leary, Rochester, Minnesota; Dr. Wm. F. Mengert, Dallas, Texas; Dr. Palmer E. Wigby, Houston, Texas; Dr. Michael E. De Bakey, New Orleans, Louisiana; Dr. Charles T. Stone, Dallas, Texas; Dr. William C. Deamer, San Francisco, California.

An unusually large and enthusiastic group of members was in attendance and definite plans were decided upon to carry on the scientific activities of the association. The next meeting will be held in Phoenix in October of this year. The newly elected officers are:

President, Dr. J. W. Hannett, Albuquerque, New Mexico; President-elect, Dr. Leslie M. Smith, El Paso, Texas; First Vice-President, Dr. Thomas Bate, Phoenix, Arizona; Second Vice-President, Dr. L. J. Marshall, Roswell, New Mexico; Secretary-Treasurer, Lr. Louis W. Breck, El Paso, Texas.

The Annual Conference of State Secretaries and Editors

The Annual Conference of State Secretaries and Editors was held at the Home Office of the American Medical Association in Chicago, Illinois, December 7 and 8, 1946. High-lighting the sessions was an address by the Honorable A. L. Miller, member of Congress, Representative, Fourth District, Nebraska. Congressman Miller, himself a Doctor of Medicine, has been seated during the past several years. As a result he is fully familiar with the efforts that have been made in behalf of the Wagner-Dingel-Murray proposals. While the Congressman expressed his belief that immediate danger of government interference in the practice of medicine was swept aside by the Republican victory in the November election, and that the present Congress will be sympathetic to the doctors of the United States, yet he warned that the proponents of State Medicine have been only temporarily restrained. Continued effort on the part of Organized Medicine to educate the public, and to take continued action to serve the low income and indigent groups is a burning necessity. Dr. Miller is the father of the proposal to create the office of Secretary of Health and Welfare with cabinet rank. While he has in the past met little success in obtaining adequate support for his bill, he intends to reintroduce it in the 80th

Congress. In regard to tax reductions Dr. Miller advanced the opinion that the first action of Congress will be to cut down the cost of Government; second, to attempt to balance the budget; and third, to reduce taxes. He suggested that 8-10% tax reduction would be the maximum.

The N.B.C. network is currently presenting an American Medical Association sponsored series titled "Doctors—Then and Now." The series will cover a twenty-five week period beginning Saturday, December 7, 1946. The time of the broadcast is 2-2:30 P.M., Mountain Standard Time each Saturday. The programs are well worked up and contain many human interest stories about doctors who have made outstanding contributions to medicine and to their communities.

In the discussions on medical economies it was pointed out that the practice of medicine involves the sum of approximately 4 billions of dollars each year. In its rapid scientific growth the practice of medicine must necessarily have both the indispensable general practitioner, and specialists. The question has been heard many times "what has become of the old-fashioned doctor." One speaker agreed to produce an "old-fashioned doctor" if some critic would produce an "old-fashioned family."

Encouragement must be given to the doctors in rural communities. This can be done by educating the people to seek medical aid from the local Doctors of Medicine, and to travel to Medical Centers only if necessary on the advice of the local physician. The health of the people must be the uppermost consideration. The confidence usually vested in the family doctor of days gone by must be recaptured and retained by education of the patients to the new economic era in medicine.

State Medical Journals must serve a threefold purpose. They must be the house organs of the State Medical Associations, and thus keep their members informed as to activities and policies. They must also act in an educational capacity and pass on to their readers the best in Medical teaching and advantages. Finally they must function as histories of State Societies and their members. Surveys to determine reader interest in the Journals was suggested as a means of improving the various publications. The Editors of Arizona Medicine welcome your suggestions and criticisms.

Harold Kohl

Radioactive Phosphorus As a Therapeutic Agent

Radioactive phosphorus has now been used therapeutically for several years, chiefly in the treatment of leukemia and polycythemia. Although the number of cases treated and the period of observation are still small, enough has been learned to warrant some tentative conclusions as to the value and limitations of this drug.

When ordinary phosphorus (P^{31}) is bombarded with deuterons (nuclei of heavy hydrogen) emitted at high speed by a cyclotron, an additional neutron is forced into the nucleus of some of the phosphorus atoms. This increases the mass of the atom (P^{32}), which now contains 15 protons and 17 neutrons. The number of electrons in the atom, which is identical with the number of protons present, is not changed, however, and therefore the new radioactive atom (P^{32}) is identical in its chemical reactions with the original atom (P^{31}) and can replace the latter in any inorganic or organic compounds into which phosphorus enters.

P^{32} is unstable, and one of the neutrons tends to change into a proton with simultaneous emission if an electron (beta ray), which exerts radio-activity on tissue cells or other material which it may reach. The mass of the new atom is not changed, but as it contains 16 neutrons and 16 protons and therefore 16 electrons, it is quite different chemically—it has become sulfur. The rate of this change is constant and is such that half of the radioactive phosphorus is converted into sulfur in 14.3 days (the "half-life" of P^{32}).

The radioactivity of a preparation can be measured with fair precision by means of a suitable electroscope or a Geiger counter. The unit is the millicurie, the amount of radioactivity produced by the disintegration of 37,000,000 atoms per second. No alpha or gamma rays, only beta rays are produced.

The amount of phosphorus converted into the radioactive form by the cyclotron varies with the exact conditions of the experiment but is relatively minute—ordinarily in the range of one part in one or two millions.

Phosphorus so treated can be used in making dibasic sodium phosphate or other preparations which can be administered to patients orally or intravenously. Isotonic solutions from freshly prepared material ordinarily contain about 0.2 to 0.4 millicuries per c.c.

The absorption, excretion and distribution of P^{32} in the tissues have been extensively studied by measurement of their radioactivity. Apparently the bodytissues utilize P^{31} and P^{32} indifferently, the relative amount of each taken up depending soelly upon their proportion of each type in the plasma and fluid tissues. Other factors being constant, therefore, the higher the concentration of P^{32} in the solution administered

and the smaller the quantity of P^{31} ingested in the food and from other sources, the greater will be the absolute amount of P^{32} taken up by any given tissue.

Following oral administration, about 75 per cent of the P^{32} is absorbed. Following intravenous administration, in normal individuals from 25 to 50 per cent is excreted in the urine and feces during the first fourto six days. After this, the rate of excretion falls to about 1 per cent per day. In leukemia a larger proportion of P^{32} is retained.

The relative amount of P^{32} taken up by the various tissues after the administration of a single dose varies greatly, depending upon the amount of phosphorus in the tissue and particularly upon its metabolic activity and the rate of cell multiplication. At first high concentrations are found in the bone marrow, liver, spleen, and lymph nodes and somewhat lower in kidney and muscle. Later high concentrations are found in bone. Neoplastic and leukemic tissue takes up much more P^{32} than normal tissue.

The effect exerted onu the tissues by P^{32} depends entirely upon the beta ray emitted when the atom disintegrates, and in general is similar to that of roentgen radiation. Although the beta ray is emitted with enough energy to penetrate about 7 mm. of tissue or flue, its effect is largely exerted in situ and is relatively concentrated on those cells which absorb it in largest amount. Radiation applied externally must reach normal and pathological cells in equal concentration, and any specific effect it may exert on the latter must depend simply upon a greater inherent susceptibility of the pathological cells to its action. Furthermore the length of life of P^{32} is sufficient to maintain a substantial activity continuously for some days, whereas roentgen radiation can be applied only for brief intermittent periods. It would be possible, therefore, that these differences in the application of the energy might give P^{32} an advantage over roentgen radiation as a therapeutic agent.

Lawrence et al.[1] in 1939 were the first to report the treatment of chronic myelogenous leukemia (two cases) with radioactive phosphorus. Since then several reports have appeared, of which only two will be discussed. Erf, Tuttle and Lawrence[2] in 1941 reported a series of 46 cases of myelogenous leukemia treated with P^{32}. The eight cases of acute leukemia were not benefitted. Of the 38 cases of chronic leukemia, partial remissions were obtained in 11 and complete remissions in five, whereas 21 had died. Many of these patients had previously received other types of treatment, were in advanced stages of the disease and were unfavorable subjects for any therapeutic experiment. Those who had had roentgen radiation previously responded poorly as a rule. Those who did respond favorably showed a progressive fall in the leukocyte count to normal or approximately normal values, with a reduction or even a virtual disappeance of primitive leukocytes from the peripheral blood. With this there was a rise in the erythrocyte count and hemoglobin, usually to normal values. There was a corresponding improvement in subjective symptoms. The spleen and liver usually diminished in size, and in a few cases they could no longer be felt. Two patients had maintained "essentially complete remissions" for nearly two years.

Reinhard et al.[3] have recently reviewed the subject and reported their own results in 39 cases of myelogenous leukemia treated with P^{32}. No benefit was obtained in any of the nine acute cases. Of the 30 cases of chronic myelogenous leukemia, 12 had died and 18 were living at the time of the report. Many were unfavorable cases in an advanced stage of the disease. Eleven cases had been followed for a year or more, and all but one had had a recurrence which required further treatment during the first year. Four had been followed for more than two years and two for more than three years, all of whom had required additional treatment. Three cases had 'fairly complete' remissions maintained for a year or more without treatment. Many cases, after a more or less satisfactory remission relapsed and died in spite of further treatment. In the patients who responded favorably, the remissions were quite comparable to those described by Erf et al. The spleen was reduced in size in 23 cases and became no longer palpable in 10.

From the results thus far reported the conclusion seems warranted that P^{32} will bring about a clinical and hematological remission in chronic myelogenous leukemia which is fully equal to that obtained by roentgen radiation and with about the same certainty. It does not cure the disease. It is not yet certain whether the remissions obtaned with P^{32} are longer or whether the duration of life is greater, but if there is any difference it is relatively slight. The chief advantage of P^{32} is that it does not cause radiation sickness nor the disagreeable symptoms or toxic manifestations that often accompany the administration of arsenic. In overdosage, however, either in leukemia or in other conditions, P^{32} may cause severe injury to the normal marrow cells, resulting in extreme leukopenia, thrombocytopenia or aplastic anemia.

Since there is a marked individual difference in susceptibility to this drug, great care must be taken in adjusting hte dose to the needs of each patient. It has been customary to give 3 to 6 millicuries of radiation in five or six divided doses during the first two weeks and continue at less frequent intervals until a hematological remission is well under way or signs of injury to the marrow appear. Treatment is then

stopped, to be resumed only when a relapse begins.

The results reported in cases of lmphatic leukemia are somewhat less favorable. Erf et al.[2] treated 41 cases with P^{32}. No effect was obtained in 16 acute cases (with one exception). Of 25 chronic cases, eight showed a partial and one a complete remission. In these cases there was a substantial reduction in the total leukocyte count, but only a slight alteration in the differential count was observed. There was temporary relief of symptoms, and in most a reduction in the size of the slpeen and lymph nodes.

Reinhard et al.[3] reported slightly better results i na series of 45 cases of lymphatic leukkemia, 15 acute and 30 chronic. At the time of the report, however, all of the acute cases and 16 of the chronic cases had died. In 20 of 24 cases with a high initial leukocyte count, the latter fell to normal levels, and 24 of 30 cases the percentage of lymphocytes was more or less reduced. There was relatively little improvement in the anemia. Symptoms were relieved in varying degree, and there was usually some reduction in size of the spleen and lymph nodes. In some cases, however, the latter were little affected, and much greater reduction was secured by local roentgen radiation. The authors concluded that their results were no better than those obtained by roentgen radiation, the chief advantage being freedom from radiation sickness.

Reinhard et al. also obtained no benefit from the administration of P^{32} in cases of monocytic leukemia, lymphosarcoma, Hodgkin's disease, multiple myeloma and in a miscelllaneous group having malignant neoplasms of various sorts. In the lmphoblastomata roentgen radiation seems to be much more effective in reducing the size of the lymph nodes than P^{32}, as the latter has heretofore been employed, even though in some cases the dose was large enough to cause serious injury to the marrow.

Cases of polycythemia vera have responded more satisfactorily to radioactive phosphorus. Lawrence[4] in 1940 first reported the successful treatment of two cases. Since then a number of confirmatory reports have appeared, including Erf and Lawrence[5] in 1941 (6 cases), Erf and Jones[6] in 1943 (11 additional cases), and Hall et al.[7] in 1945 (12 cases). More recently Reinhard et al.[3] reported a series of 30 cases treated with P^{32} over a four year period. The results obtained are essentially in agreement and will be summarized as a whole.

Heinhard et al. gave 3.5 to 4 millicuries as a single intravenous injection. If the red blood cell count was over 6 million 90 days later, a second dose of 1 to 3 millicuries was given, and rarely repeated after a second 90 day interval. The total amount needed varied greatly, however, and must adjusted for each individual patient. No more is given until a relapse occurs.

In most cases there was no appreciable change in the blood until after six to eight weeks. There was then a progressive fall in red cell count, hemoglobin and hematocrit reading to normal or subnormal levels. In 11 of 30 cases the count fell below four million cells. The leukocyte and platelet counts also fell, sometimes to subnormal levels. The delayed response is explained by the assumption that P^{32} does not injure the circulating red cells but merely depresses the formation of new cells by the marrow. No fall is to be expected, therefore, until the circulating red cells wear out with age and are removed from the circulation. With the fall in red cell count there was usually substantial subjective improvement although often not complete relief of all the symptoms. The spleen became smaller in virtually all, and could no longer be felt in about about two-third of the cases. The other objective abnormalities, particularly the red color, also largely disappeared, but hypertension if present was less affected.

The average duration of the remissions has not yet been accurately determined. In Reinhard's series, this varied from five to more than 33 months. In 17 cases the remission had lasted more than nine months; in 11, more than one year; and in five, more than two years, and many were still continunig In only eight had a second course of treatment been required. In two reported cases [3, 7] following a remission, death occurred with the hematological features of a subacute myelogenous leukemia, an outcome fairly common under previous methods of treatment. A long period of observation will be required to compare the results of treatment with P^{32} with those obtained by other methods, particularly with spray radiation, and to determine to what extent if at all life is prolonged.

The chief drawbacks to the use of P^{32} are the cost and difficulty in obtaining the material; the risk of granulocytopenia and thrombocytopenia if the dose is excessive—which is equally a risk with roentgen radiation; and the slow initial response to treatment. In many patients with excessively high counts and severe symptoms, in whom there is a risk of thromboses, it seems advisable to carry out venesections for temporary relief during the initial period of treatment.

In conclusion, radioactive phosphorus provides a highly effective, convenient form of treatment for polycythemia vera, which is comfortable for the patient and which seems to compare favorably with the procedures commonly used. In chronic leukemia in the earlier stages of the disease it brings about remissions which are similar o those obtained by roentgen radiation, but are not significantly if at all superior. The chief advantage is freedom from radiation sickness. It does not cure the disease, and there is no proof as yet that it prolongs life. It is useless in acute leukemia. In such conditons as

Hodgkin's disease, lymphsarcoma and those malignant neoplasms in which its use had been reported, it seems to be much inferior to roentgen radiation. Whenever P^{32} is used, the same precautions to avoid overdosage must be observed as are employed in giving external roentgen radiation.

P. W. C.

Reprinted from Annals of Intrenal Medicine, October. 1946.

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In Memoriam

DOCTOR JOHN W. PENNINGTON
1903 - 1946

The medical profession of Phoenix sustained a great and tragic loss on October 12, 1946, when Doctor John W. Pennington was accidentally killed by the discharge of a hunting rifle which he was inspecting.

Doctor Pennington had been located in Phoenix since 1932. Originally associated with Doctor David M. Davis, he had carried on the practice of the former and expanded and developed it, meanwhile building for himself a reputation for splendid urological work.

Doctor Pennington was born in Sigourney, Iowa, March 30, 1903. He attended the public schools of Iowa and graduated from the University of Iowa in 1929 with a Doctor of Medicine Degree. He then interned in the University of Oklahoma Hospital for one year and then the Henry Ford Hospital in Detroit two years, following which he located in Phoenix. He became a Diplomate of the American Board of Urology and a Member of the American Urological and the Western Branch of the American Urological Association.

Doctor Pennington was active in local medical affairs, participating in the meetings of the County and hospital groups, and in 1945 was suitably honored by being elected President of the Maricopa County Society. During his term of office, he initiated a number of programs which will bear fruit for years to come. At various times and in various capacities, he was a member of the Council of the Arizona State Association. In addition, he was active in various civic projects, particularly the Boy Scouts. In all of these activities, his constant interest, enthusiastic work and uncompromisng insistence upon the very best work gained for him a respect and esteem from all who knew him.

He was always interested in sports, and participated actively in hunting, fishing, in golf and in bowling.

Throughout his medical career, his outstanding characteristic was his constant insistence upon the very best work gained for him a respect and esteem from all who knew him.

He was always interested in sports, and participated actively in hunting, fishing, in golf and in bowling.

Throughout his medical career, his outstanding characteristic was his constant insistence on perfection in his own work and in that of those who were associated with him, to the end that each patient received the very best that was possible to provide.

Doctor Pennington is survived by his wife, Anne Davis Pennington, and sons, Jack and Dick.

Preston Brown, M. D.

PAUL D. SPRANKLE, M. D.

Again the Association has lost a devoted member through the recent and sudden death of Dr. Paul D. Sprankle of Winslow, Arizona. Dr. Sprankle entered practice in the state in 1908 and, in his quiet way, gave consistent support to his medical organization. The following tribute was paid the doctor by his home-town press; we bow in concurrence:

Dr. Paul D. Sprankle, 67, well known and highly respected citizen of Winslow for the past 40 years, succumbed to a heart attack at the Winslow General Hospital Sunday, Sept. 22 at midnight.

Paul Darling Sprankle was born at Frostburg, Pa., June 15, 1879, but was brought up and spent most of his youth at Chase City, Va. The medical profession was his chosen life's work and he studied at and graduated from Jefferson Medical College, Philadelphia, Pa., in the year 1904.

Dr. Sprankle came to Winslow in 1906 and after passing the state medical examinations started the practice of medicine here. On December 28, 19908, he was united in marriage to Miss Ruth Rand, whom he wet in Winslow. Four children were born of the union, Pauline, now Mrs. I. G. Beall of Phoenix, Paul Darling, Rand Fair and Burton Frederick, all of whom survive their father.

Other surviving members of the family are a brother and sister, Daniel Sprankle of Pittsburgh, Pa., and Mrs. John C. William of Chase City, Pa., and his wife, Ruth.

Dr. Sprankle was a member of the American Medical Association and vice president of the Jefferson Alumni Association of Arizona, he belonged to the Free & Accepted Masons, Lodge No. 13, the Scottish Rite Masonic Lodge of Tucson, and the El Zaribah Shrine of Phoenix. He performed outstanding service to his country during World War I and II and received two certificates of merit from President Roosevelt and one from President Truman for meritorius services performed. These were valued very highly by the doctor as he was truly patriotic and always ready to be of service to his country. All three of his sons volunteered and gave their services during World War II, Paul Jr. in the United States and Rand and Burton overseas.

One of the contributions given by Dr. Sprankle during all the years of his practice in Winslow was his untiring and charitable work among among the Spanish residents, who deeply mourn the passing of a good and kind man. He loved the country and the western people and one of his deepest regrets during the past several months was that he was unable, because of his failing heart, to get out in the high and wide open spaces and enjoy to the full the mountain heights which he loved so well.

His loss will be deeply felt in Winslow by people of all ranks and heartfelt sympathy pours out to the bereaved family.

F. A. C. S.

The following Arizona surgeons were received into fellowship in the American College of Surgeons at the Convocation held Dec. 20, during the Clinical Congress in Cleveland:

L. D. Beck, Phoenix; Robert E. Hastings, Tucson; E. Payne Palmer, Jr., Phoenix; Naugle K. Thomas, Tucson; George A. Williamson, Phoenix.

Recruitment Drive for Nurses

During the years our country was at war, our hospitals were affected simultaneously by an increase in average numbers of patients and by a shortage of nurses. The government realizing the need for civilian nurses to replace those entering the Army and Navy, set in motion its extensive Recruitment Program. With modern publicity, nursing became the "profession with a future" and nursing schools received increased numbers of Cadet Nurses.

Today the story is a very different one. The war over, the Cadet Nurse Corps no longer exists and, while schools of nursing are still graduating large classes of Cadets, very few schools have beginning classes which equal even pre-war numbers. It would seem that our present high school graduates have lost interest in the "profession with a future". At the same time conditions in our civilian hospitals have not changed.

Release of nurses from miltiary service has not materially changed the nursing picture. When offset by those nurses who retired from active duty when the war emergency was past, these small numbers of released nurses have not relieved the shortag. Large numbers of students are needed if present standards are to be maintained, and yet enrollments are decreasing. Perhaps the military attributes have been removed from nursing, but there are still retained a dignity and a charm that no other profession for women holds. Nursing is still definitely a "profession with a future". In a strictly practical manner, nursing is an open field with so many differing developments in which almost anyone can find satisfaction.

Here in Arizona the situation is critical. Because of the vast program of Public Health alone, which is being planned for this state in the immediate future, it is imperative to educate nurses now who will be able to carry out this program.

During the month of January, St. Joseph's Hospital School of Nursing in Phoenix sponsored a recruitment drive for student nurses. Applications are now being accepted for the class beginning February 24. Another class will be enrolled in September.

St. Joseph's Hospital School of Nursing in Phoenix is the oldest School of Nursing in the State of Arizona. It is fully accredited by the Arizona State Board of Nurse Examiners and has always kept pace with the advance of science and Nursing Education. The Hospital and School of Nursing are operated by the Sisters of Mercy who have a long and enviable record of successful hospital administration. The Sisters are thoroughly trained for their work and special attention is given to their proper formation and education, at the Motherhouse and Novitiate which is located in Burlingame, California. The Sisters of Mercy are also well known for their work in education and they conduct several schools of outstanding reputation.

St. Joseph's Hospital School of Nursing offers a thorough educational program to young women imbued with those personal attributes so necessary for a successful nurse — the desire to serve others, devotion to task, and discipline of mind and spirit. The Hospital is not only deeply concerned with the best in patient care but is equally concerned with the education of its students. When their course is completed the students are prepared to maintain the high standards which they have achieved during their years in the Hospital and School, and are ready to meet the challenge of ever increasing opportunities in serving the health needs of the community.

During the Recruitment of applicants for the February class, St. Joseph's is appealing to all single young women throughout the state who are high school graduates between the ages of 17 and 35, and who wish to receive a higher education at a minimum cost. The profession offers a splendid, useful, and extremely interesting career. For full information write immediately to the Director, School of Nursing, St. Joseph's Hospital, Phoenix, Arizona.

Arizona Blue Shield Medical Service Progress Report

Since the Arizona Blue Shield Medical Service was voted by the official bodies of the Arizona State Medical Association last June 22, the tedious details of the mechanics of legal operation have been executed and the plan prepared for activation. Following are the steps cleared to date:

1. The Incorporators met and incorporated with BLUE SHIELD as its registered emblem.

2. The officers, board of directors, and professional committee, as voted at the June 22nd meeting, were formally declared elected by the Incorporators as required. This constituted the first official meeting of the Arizona Blue Shield Medical Service.

3. The Board of Directors held their first official meeting on January 25. This was an organizational meeting with the following major items of business transacted: (1) Election of permanent chairman for the Board. Dr. Carlos C. Craig of Phoenix was so elected. (2) Filling the vacancy on the board occasioned by one lay member being unable to serve. Mr. Richard Simis of Phoenix was voted to fill this vacancy. (3) Action on resignation of Dr. W. Paul Holbrook of Tucson as President of Arizona Blue Shield, his resignation being due to his illness. Dr. E. Payne Palmer of Phoenix was voted to fill this vacancy. (4) The Arizona Blue Cross Hospital Service was voted to administer the Blue Shield Medical Service. Arizona Blue Cross and Arizona Blue Shield will therefore be under joint administration. (5) An executive committee of the Board was voted to expedite the business of the directors. This Committee consists of Drs. Carlos C. Craig, E. Payne Palmer and Richard Simis. The committee was empowered to proceed with the final draft of the Rules and Regulations, Subscription Agreement, Fee Schedule, and the like with the Professional Committee to dispatch its responsibilities in relation to the Subscription Agreement, Fee Schedule and the like. (6) The Arizona Blue Shield Medical Service, in annual meeting next May will take the final steps for ratification of those phases of the service on which licensure for operation depend. Immediately after such ratification the Service will go into effect. It will render surgical and obstetrical services to

employed groups with as few as five employees in a group.

In summary, the Officers for the Arizona Blue Shield are:

Dr. E. Payne Palmer, Phoenix.....President
Dr. D. W. Kittredge, Jr., Flagstaff
.....Vice President
Dr. Paul H. Case, Phoenix.....Secretary

The Board of Directors (consisting of 10 physicians and five lay members by By-law provision) are:

Physician Members

Dr. Meade Clyne, Tucson
Dr. Walter Brazie, Kingman
Dr. W. Paul Holbrook, Tucson
Dr. A. I. Podolsky, Yuma
Dr. Hal W. Rice, Bisbee
Dr. O. E. Utzinger, Ray
Dr. E. C. Houle, Nogales
Dr. C. C. Craig, Phoenix, *Chairman*
Dr. Ernest A. Born, Prescott
Dr. E. Payne Palmer, Phoenix

Lay Members

Sister Ann Lucy, Tucson
Mr. Richard Simis, Phoenix
Mr. Steve Spear, Phoenix
Mr. John Durkin, Tucson
Mr. Hugh C. Gruwell, Phoenix

The Professional Committee (consisting of 5 physicians by By-law provision):

Dr. H. D. Ketcherside, Phoenix, *Chairman*
Dr. Edward M. Hayden, Tucson
Dr. C. E. Yount, Jr., Prescott
Dr. Joseph M. Greer, Phoenix
Dr. James R. Moore, Phoenix

Attention Medical Officers

The Committee on National Emergency Medical Service have mailed out 50,000 questionnaires to the medical officers who served in World War II. This is a critical study to determine how medical personnel may best be utilized for the care of both the military and civilian population in case of another national emergency.

Have you filled out YOUR questionnaire? By complying with this request you will be cooperating with the long range planners of both our medical organizations and our government.

ABSTRACTS

Prepared by the Staff of the
CARRIE TINGLEY HOSPITAL
Hot Springs, New Mexico

Journal of Bone and Joint Surgery, Vol. 28, No. 3, Page 544, July 1946

METATARSAL FRACTURE

E. J. MORRISSEY, M.D.
Bethlehem, Pa.

The author presents a simplified method for treatment of simple fracture of the metatarsal which consists of applying a simple molded leather arch with or without a metatarsal pad of sponge rubber. The arches were of stock variety and applied with adhesive strapping. These adhesive strappings did not extend above the malleoli and were used primarily to approximate the leather arch to the foot. The strappings were changed weekly for four weeks and then the leather arches were worn in the shoes as simple arch supports for a period of one month.

The cases varied from fracture of one metatarsal to four metatarsals with varying amounts of soft tissue damaged. 78.7% of the G. I. cases reported began weight bearing before ten days and the remainder of 212% began weight bearing on an average of 14 days after injury. The majority of the patients so treated were able to return to regular employment from 21 to 40 days after injury. The largest interval between injury and return to normal employment was 60 days.

This method of treatment is recommended for treatment of simple fracture of the metatarsals and according to the author, by this treatment the number of man days lost in the 61 cases presented was reduced from 2,722 man days to 132 man days.

L. S. Stovall, M.D.

Journal of Bone and Joint Surgery, Vol. 28, No. 3, Old Series, Vol. 44, Pagt 551, July 1946

THE TREATMENT OF CONGENITAL DISLOCATION OF THE HIP

E. L. COMPERE, M.D., and
WM. J. SCHNUTE, M.D.
Chicago, Ill.

The authors attribute the failure of treatment of congenital dislocation of the hip in children under four years of age to discontinuance of immobilization before an adequate acetabulum has been formed by the pressure and function of a reduced and articulating femoral head. They recommend that the head of the femur be held securely in the acetabulum until an adequate acetabulum has been formed. To avoid rigid immobilization by plaster spica they are

using Denis Browne splints with a long cross bar as a convalescent splint. This affords wide abduction, at the same time holding the head securely in the acetabulum but allowing some motion at the hip joint. The formation of an adequate acetabulum is based upon Wolff's Law.

The plan of treatment which is recommended is as follows:

1. The lower extremities are held in "frog-leg" position, with 90 degrees abduction, for two months by means of a plaster spica.

2. An abduction spica cast is applied for two months.

3. (a) Bilateral long leg casts are applied to the lower extremities, held widely apart by means by a plaster strut to maintain abduction and slight internal rotation for two months.

(b) Denis-Browne splint is applied with a long spreader and maintained for two months.

(c) The spreader is left off one hour each morning and evening to begin with. This time is increased one hour per day each week until it is finally left off all day and used only at night. Night splints are continued as long as is necessary to obtain a satisfactory hip joint.

L. S. Stovall, M.D.

Surgery, Gynecology and Obstetrics,
83:205-209, August 1946

DEFORMATIONS OF THE SKULL IN HEAD INJURY, STUDIED BY THE "STRESSCOAT" TECHNIQUE, QUANTITATIVE DETERMINATIONS

E. S. GURDJIAN, M.D., and H. R. LISSNER
Detroit, Mich.

The so-called "stresscoat" technique records tensile deformations when they are of sufficient magnitude to cause cracks in a strain-sensitive brittle coating previously applied—in this case to the skull. "Stresscoat" is the trade name of a brittle lacquer method of strain determination in any material subjected to static and dynamic loads. Previously, dogs and monkeys were used in order to establish a co-relation between the stran patterns obtained in the skull of the living animal. It was found that the patterns in direction and general distribution of the strain paths were the same in all three classes, although less extensive in the dry skull. These experiments were conducted under direct hammer blows. Strain patterns were studied also in the human dry and cadaver skulls (with the intraeranial tissues intact), also with hammer blows. It was found that the human and lower forms differed materially in their strain patterns, being more localized in the human.

In the present experiments certain quantitative data are given in regard to the effects of a given amount of absorbed energy in various portions of the skull and the deformations resulting from blows of varying energy. Six freshly prepared human skulls were used, five were kept in normal saline and one dry. The former were allowed to dry, then successively sprayed with "stresscoat" until it met with proper requisites of colibration, room temperature and humidity. The skulls were then dropped on a polished steel block, the amount of energy absorbed by each skull being the weight x the distance through which it was dropped, under known velocities at the instant of impact. Test blows were delivered to the mid frontal, mid occipital, lateral frontal, lateral posterior parietal and anterior vertex (mid line) regions. It should be remembered that this method shows only tensile strain; compression strain cannot be visualized—and that only the external surface of the skull has been studied thus far, nor is anything known of energies of high velocity.

Threshold deformities differ in various parts of the skull, less absorbable energy to produce them being required for instance in the mid occipital than in the mid frontal areas. The theory of contrecoup fractures is supported in their experimental findings in certain cases. The distribution and direction of deformation patterns generally parallel clinical fracture lines. Absorbable energy not of sufficient magnitude to cause adequate pressure waves in the cranial cavity may not result in post-traumatic unconsciousness, even when deformation and fracture are present.

J. Kulowski, M.D.

Surgery, Gynecology and Obstetrics,
83:205-209, August 1946

ONE STAGE TUBED ABDOMINAL FLAPS SINGLE PEDICLE TUBES

DARREL T. SHAW, M.D., Cleveland, Ohio
ROBERT L. PAYNE, JR., M.D., Norfolk, Va.

The authors present their method of preparing single pedicle tube grafts for early coverage of wounds of the upper extremity which frequently require replacement of skin and subcutaneous tissues. They raise long oblique or vertical mobile flaps from the lower abdomen which are based inferiorly so as to include the superficial epigastric and superficial circumflex iliac veins and accompanying arteries, thereby assuring an excellent flap blood supply. Their raised flaps have measured from 5-18 cms. in length and from 3-7 cms. in width. The superficial veins serve as a guide in cutting the flaps when they are visible, otherwise their location is approximately defined. The flap may include Scarpa's fascia. The donnor area is closed with

continuous subcuticular stainless steel wire, which begins formation of the tube. Staggering of the inferior margins of the flap permits and facilitates axial rotation of the tube through 180°. The tube is formed by simple interrupted sutures and is applied to the recipient defect by subcuticular sutures of fine white twisted nylon and interrupted skin sutures of fine stainless steel wire or fine silkk. Ordinarily the tube is divided in three weeks. This one stage single pedicle abdominal tube seems practical and advantageous since it combines the speed of the abdominal flap with the cleanliness of the tube.

J. Kulowski, M.D.

HEALTH EDUCATION PROGRAM ON CARE OF THE HEART

Interest in the control of heart disease is currently being enhanced by the efforts of many professional and lay groups. This attention to heart ailments has long been warranted. The public is becoming more acutely aware of cardiac hygiene than ever before, a growing interest that should be cultivated and guided with judgment as well as vigor.

During the past third of a century, the improvement in mortality from heart disease was most pronounced in the younger age groups and decreased progressively with advance in age. The death rate from disease of the heart and arteries, corrected for the ageing of the population, dropped virtually 30 percent between 1911-15 and 1940-44, according to experience among the Industrial policyholders of the Metropolitan Life Insurance Company. This reduction in mortality from the principal cardiovascular-renal diseases has been particularly marked among white females—37 percent in the above-mentioned period. Among the males, the decrease in mortality, while not as marked as among the females, was 25 percent, still a quite substantial reduction. This still leaves much to be desired in the field of early diagnosis and immediate initiation of adequate cardiac regimes in order to reduce to a minimum in capacity and mortality from these conditions. Concentration of effort must now be placed on teaching the public what is known about prevention, early recognition, and care of cardiac lesions.

In order to assist in the attainment of this goal, the Metropolitan Life Insurance Company is conducting a special campaign on heart disease during the fall and winter months. At that time, the Company's more than 20,000 Field Representatives, in cooperation with official and voluntary agencies, will reach the homes of millions of policyholders with a recently published pamphlet, "Your Heart," developed in cooperation with the American Heart Association. A lay educational film on heart disease is also being prepared. Distribution will be made to physicians of a packet in which will be included material of special interest to doctors, and a scientific exhibit on heart disease, first shown at the A. M. A. meeting in San Francisco, is available for state and local professional meetings.

UROLOGY AWARD—The American Urological Association offers an annual award 'not to exceed $500' for an essay (or essays) on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

For full particulars write the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee. Essays must be in his hands before May 1, 1947.

The selected essay (or essays) will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Statler, Buffalo, New York, June 30-July 3, 1947.

NOTICE

The American Medical Association is going to celebrate its centennial in Atlantic City, June 9-13, 1947. Elaborate plans are being made for this celebration.

Only Fellows and Invited Guests are eligible to attend. Membership in your state society is the primary qualification for Fellowship in the A. M. A. Fellowship dues and subscription to The Journal A. M. A. are both included in one annual payment of $8.00, which is the cost of The Journal to subscribers who are not Fellows.

If you are not a Fellow and plan to attend the Atlantic City session, which will be a milestone in medical history, you can save yourself considerable time and confusion when registering, if you will write now to the American Medical Association, 535 North Dearborn Street, Chicago 10, and ask if you are eligible to become a Fellow.

Annual Meeting

TUCSON, ARIZONA
MAY 7-8-9-10, 1947

HOTEL PIONEER — HEADQUARTERS

•

Scientific Sessions

EMINENT GUEST AND LOCAL SPEAKERS

Thursday: Forenoon and Afternoon, May 8

Friday: Forenoon, Afternoon, Evening, May 9

Complete Program to be printed in March Issue

Entertainment

President's Dinner and Dance, Hotel Pioneer
Thursday, May 8, 8:00 P.M.

Business Sessions

COUNCIL — WEDNESDAY, MAY 7 at 2:00 P.M.

HOUSE OF DELEGATES — WEDNESDAY, MAY 7 at 7:30 P.M.

Additional called sessions for both groups on Saturday, May 10

SPECIAL SECTIONS TO BE HELD IN ADVANCE OF SCIENTIFIC SESSIONS

•

MAKE YOUR HOTEL RESERVATIONS NOW

SUBJECT: "YOUR DOCTOR"
AUDIENCE: 23 MILLION PEOPLE

This is the 200th message published by Parke, Davis & Company in the interest of the medical profession. It appears this month in full color in LIFE and other leading national magazines.

The Lois Grunow Memorial Clinic

The Lois Grunow Memorial Clinic is inviting the members of the Arizona State Medical Society to attend the Lectures in Medical Science at the Lois Grunow Memorial Clinic, 926 East McDowell Road on February 20, 21 and 22, 1947.

The guest speakers for the lecture series are:

Dr. Claud F. Dixon, Surgeon, Mayor Clinic, Rochester, Minnesota.

Dr. Bernard J. Hanley, Professor of Obstetrics and Gynecology, University of Southern California.

Dr. Ferdinand C. Helwig, Associate Professor of Pathology, University of Kansas.

Dr. Milan E. Knapp, Assistant Professor of Physical Medicine, University of Minnesota.

Dr. John Martin, Associate Professor of Neurosurgery, Northwestern University.

Dr. Ovid O. Meyer, Chairman of Department of Medicine, University of Wisconsin.

Program

Thursday, Februay 20

DR. H. G. WILLIAMS, *Chairman*

1:00 P.M. "Relationship of Trauma to Coronary Artery Disease, Experimental and Clinical Studies."
Dr. Ferdinand C. Helwig

1:40 P.M. "Recent Advances in Poliomyelitis."
Dr. Milan E. Knapp

2:20 P.M. "Breach Delivery."
Dr. Bernard J. Hanley

3:00 P.M. to 3:20 P.M. Intermission

3:20 P.M. "The Treatment of Craniocerebral Injuries."
Dr. John Martin

4:00 P.M. "The Peptic Ulcer Problem."
Dr. Claud F. Dixon

4:40 P.M. "Recent Advances in Hematology."
Dr. Ovid O. Meyer

Friday, February 21

DR. T. A. HARTGRAVES, *Chairman*

10:00 A.M. "The Treatment of Spinal Cord Injuries."

10:40 A.M. "Infantile Eczema."
Dr. George Rogers

11:20 - 11:30 A.M. Intermission

11:30 A.M. "Management of Persistent Occipito-posterior and Deep Transverse Arrests."
Dr. Bernard Hanley

DR. H. J. MCKEOWN, *Chairman*

2:00 P.M. "The Pathology of Poliomyelitis."
Dr. Milan E. Knapp

2:40 P.M. "Treatment of Subacute Bacterial Endocarditis with Antibiotics."
Dr. Ovid O. Meyer

3:20 P.M. "Common Disease of the Ear."
Dr. D. E. Brinkerhoff

4:00 - 4:20 P.M. Intermission

4:20 P.M. "Interstitital Myocarditis: A Clinical Entity? with Experimental Studies in Etiology."
Dr. Ferdinand C. Helwig

5:00 P.M. Intestinal Obstruction."
Dr. Claud F. Dixon

7:30 P.M. "Information Please Dinner"
Reservations necessary.

Saturday, February 22

DR. C. SELBY MILLS, *Chairman*

9:30 A.M. "Thrombosis and the Anticoagulants."

10:10 A.M. Treatment of Poliomyelitis."
Dr. Milan E. Knapp

10:50 - 11:00 A.M. Intermission

11:00 A.M. "Early Ambulation-Postpartum."
Dr. C. B. Warrenburg

11:40 A.M. "Infectious Mononucleosis, A Systemic Disease with an Analysis of Three Hundred Cases."
Dr. Ferdinand C. Helwig

DR. JAMES LYTTON-SMITH, *Chairman*

2:00 P.M. "Practical Aspects of the RH Factor"
Dr. Bernard J. Hanley

2:40 P.M. "Transcondylar Fractures of the Humerus of Childhood"
Department of Orthopedic Surgery, Lois Grunow Memorial Clinic

3:20 - 3:30 P.M. Intermission

3:30 P.M. "The Diagnosis and Treatment of Herniated Intervertebral Discs."
Dr. John Martin

4:10 P.M. "Progress in the Management of Colonic and Rectal Cancer."
Dr. Claud F. Dixon

4:50 P.M. "Meningococcemia and Its Manifestations."
Dr. Leslie B. Smith

Lecture period 30 minutes, discussion periods 10 minutes

REPORT OF MID-WINTER SESSION OF HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION

CHICAGO, DEC. 9, 10, 11, 1946

The Mid-winter session of the American Medical Association House of Delegates was held in the auditorium of the AMA Building in Chicago on December 9, 10, 11, last.

The meeting was conducted largely in executive session because many matters were brought before it relating to the intimate affairs of the Association. Such information as deemed advisable for publication in the AMA Journal was released in condensed form in suceeding issues. It is hoped that all members of our Society will read these minutes carefully.

Aresume of the procedures can be stated briefly as follows:

1. Voted to invite the Veterans Administration to send a delegate representing its group to the House of Delegates, along with the Army, Navy, and Public Health Service, such representation to begin after adoption of a new AMA Constitution and By-laws next June meeting.

2. The Veterans Administration will be asked not to include anesthesiology, pathology, radio-

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REPORT OF MID-WINTER SESSION OF HOUSE OF DELEGATES

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logy and physical theapy in its contracts with hospitals.

3. The delegates considered resolutions relating to general practitioners' services in hospitals. Hospitals are urged to establish general practitioner services, and adopted a policy of membership on a hospital staff as not being contingent upon "certification of a specialty board or upon membership in a special society."

4. Acted upon a resolution dealing with payment of salaries to internes and residents in hospitals, wherein monetary value should not be the deciding factor in the selection of recent graduates.

5. Passed a resolution condemning nurses who, trained in anesthesiology, start and operate a professional business of their own without medical supervision.

6. Two states, by resolution, sought to discourage the Speaker of the House from referring matters of business to the Board of Trustees who would then sit as a reference committee. By implication, the warning was evident since, at this session, the Board of Trustees did not as a reference committee to pass judgment on their own recommendations.

7. The delegates heard a lengthy address by Admiral Boone, M.C.U.S.N. on the survey now being conducted in the coal mining districts. The Admiral also discussed the necessity of organized medicine to be prepared to faster continued, rational solutions oo ehe problems of: (1) more equitable distribution of medical care; (2) rapid transfer of laboratory and clinical research for the patient's benefit; (3) rising costs of medical care; (4) dissemination of application of technology of public health, industrial medicine and preventive medicine on a greater scale.

8. In the field of Public Relations, the delegates learned that several of the suggestions made in the Rich report were already in operation through action of the Board of Trustees. The full Rich report was made available to the House, together with a copy of the report of recommendations of the Special Reference Committee on the Rich report. It was a long, tedious grind for the delegates in executive session, and by the time the Reference Committee had fin-

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REPORT OF MID-WINTER SESSION OF HOUSE OF DELEGATES

(Continued from Page 58)

ished it was found that out of the thirty four recommendations of the Rich report thirty one had been adopted. Excerpts of these proceedings, approved for publication, will be found in the AMA Jounal. Suffice it to say, at the AMA Headquarters, a division of public relations has been created with a trained executive assistant to the general manager in charge. This division will manage all public relation activities of all the Councils, bureaus, publications and other association agencies.

9. Inasmuch as there was considerable disagreement among some members on the Rich report in its dealing with the N.P.C., the delegates finally wound up this portion of the report by agreeing to set up a committee for studying AMA and NPC relations, and concluded to call for a further report at the next meeting of the House. Another point upon which the House felt that Mr. Rich had overstepped bounds of propriety was in reference to AMA legislative activity. Mr. Rich's bold suggestion was not adopted, instead his ideas were tempered with the thought that the Bureau of Legal Medicine and Legislation should be in position to prepare and assist in developing legislation based on formulated AMA principles. A Resolution directing further study of this matter was adopted.

10. During this session of the House a committee of five was provided who are to work with a committee from the American Dental Society, especially in legislative activity.

11. The House adopted a resolution con-

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a woman may be made
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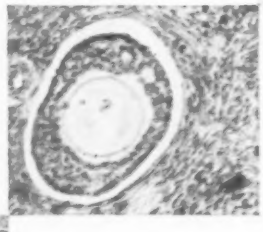

Color photomicrograph of section of ovary showing corpus luteum.

Color photomicrograph of section of ovary showing graafian follicle.

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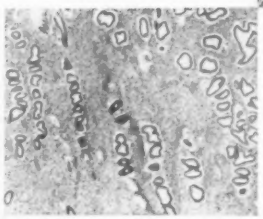

Color photomicrograph of endometrium during secretory stage.

Color photomicrograph of endometrium during proliferative stage.

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REPORT OF MID-WINTER SESSION OF HOUSE OF DELEGATES

(Continued from Page 60)

demning the Surgeon General and other members of the Public Health Service for their "political and partisan activites". The Resolution was suggested because of the year old letter sent out to all public Health Medical Officers by Dr. Parran directing PHS personnel to back compulsory health insurance.

12. Other House actions consisted of:

(a) Rescinded previous action for the creation of a National Health Congress.

(b) Urged close cooperation between coal mine physicians and the AMA in order to maintain high standards of medical practice.

(c) Requested medical representation on boards who handle union health and medical funds.

(d) The Board of Trustees was asked to wet up standards which should be met by the 89 operatives and consumer-controlled groups now providing group medical service.

13. Another action taken by the House will, in the future, permit election of House delegate members to the office of President or other general office of the AMA.

14. The House adopted a resolution recommending the extension of the developement of the Woman's Auxiliary, and that the Board of Trustees provide the Auxiliary with a definite program.

15. The House adjourned without adoption of the special committee on Constitution and By-laws. The work of this committee was not complete so this matter will be of major interest at the June meeting this year.

Respectfully submitted,
JESSE D. HAMER, M. D.
Delegate

The University of California Medical School, with the cooperative administration of University Extension, University of California, will shortly announce a program of postgraduate instruction to be offered at the Medical Center, San Francisco. A variety of courses will be given which will encompass the fields of Internal Medicine, General Surgery, Obstetrics and Gynecology, Otorhinolaryngology, Ophthalmol-

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ANNUAL DUES

ANNUAL DUES FOR 1947 are now due and payable to the ARIZONA MEDICAL ASSOCIATION, 423 Heard Building, Phoenix

THE AMOUNT OF STATE ASSOCIATION DUES

$30.00 per each active member; $15.00 per each associate member.

EACH COUNTY MEDICAL SOCIETY

Collects the state association dues from each county member and remits same to the association as per above.

MEMBERS IN SERVICE

Were carried on the state roster without payment of dues while in the service provided they were members in good standing at the time they entered service. On returning to practice, dues are again payable.

MEMBERSHIP WITH THE AMERICAN MEDICAL ASSOCIATION

An active member of the state association automatically becomes a member of the American Medical Association without remittance of dues to that organization.

FELLOWSHIP WITH THE AMERICAN MEDICAL ASSOCIATION

A member of the American Medical Association wishing to become a Fellow of the same organization, makes direct application to the American Medical Association and upon acceptance by that organization and the payment of Fellowship dues, direct to the American Medical Association, receives fellowship credentials.

NOTE: An Active Member of the Arizona Medical Association is licensed in the state and engaged in private practice. An Associate Member is one not licensed to practice in the state and is engaged in some branch of the federal service — Indian Service, Veterans' Administration, researchist, teacher, public health or the like.

(Continued from Page 62)

ogy, Psychiatry, and the Basic Sciences, as well as a course specially designed to meet the needs of general practitioners, notice of which appears below. Announcements of this general program will be mailed to all physicians in California and to large groups in the neighboring states.

Fees for all these courses will be covered by the provisions of the G. I. Bill of Rights.

Refresher course in internal medicine and general surgery, February 10 to 14, inclusive, 1947.

This course which is primarily designed for General Practitioners will include the recent advances in diagnosis and treatment in Internal Medicine and General Surgery. It is open only to graduates of approved Medical Schools. It is to be given at University of California Hospital, Medical Center, San Francisco. The fee for this course will be announced in a detailed notice mailed upon request.

For further information with regard to these various programs of postgraduate instruction kindly communicate with Stacy R. Mettier, M. D., Head of Postgraduate Instruction Medical Extension, University of California Medical Center, San Francisco 22, California.

Results of the oral and written examinations for Fellowship conducted by the American College of Chest Physicians, at San Francisco, on June 29, 1946.

The following physicians passed both the oral and written examinations for Fellowship:

Herbert Bauer, San Luis Obispo, California.
John J. Brosnan, M.D., Chicago, Illinois.
Charles J. Caul, M.D., Kearney, Nebraska.
Charles B. Craft, Major, M.C., Denver, Colorado.
Samuel D. Daniels, M.D., Los Angeles, California.
Isaac Epstein, M.D., Alexandria, Louisiana.
Louis L. Friedman, M.D., Birmingham, Alabama.
Y. Fred Fujikawa, M.D., Mt. Vernon, Missouri.
Morton Gibbons, M.D., San Francisco, California.
Robert Glass, M.D., Staten Island, New York.
Leon H. Gorfinkel, Los Angeles, California.
George R. Hodell, M.D., Houston, Texas.
Francis T. Johnson, Monrovia, California.
Robert E. Joseph, M.D., Salem, Oregon.
Martin Kettler, M.D., Glenn Dale, Maryland.

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Frankk Lamberta, M.D., Jamaica, L. I., New York.

E. E. Lundegaard, M.D., Santa Ana, California.

Bernard McGovern, M. D., Los Angeles, California.

Leonard Munson, M.D., Sanford, Florida.

Arnaldo Neves, M.D., Mt. Vernon, Missouri.

S. Barre Paul, M.D., San Francisco, California.

Paul E. Pifer, M.D., Kenosha, Wisconsin.

Charles W. Rudolph, M.D., Tucson, Arizona.

Jewell Mae Sanders, M.D., Berkeley, California.

Maurice Shoor, M.D., Los Angeles, California.

Paul Smith, M.D., Olive View, California.

M. M. Szues, M.D., Youngstown, Ohio.

Paul G. Thode, M.D., Fort Defiance, Arizona.

Lewis S. Trostler, M.D., Albuquerque, New Mexico.

William C. Wenkle, M.D., Olive View, California.

Julius Zelman, M.D., San Bernardino, California.

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